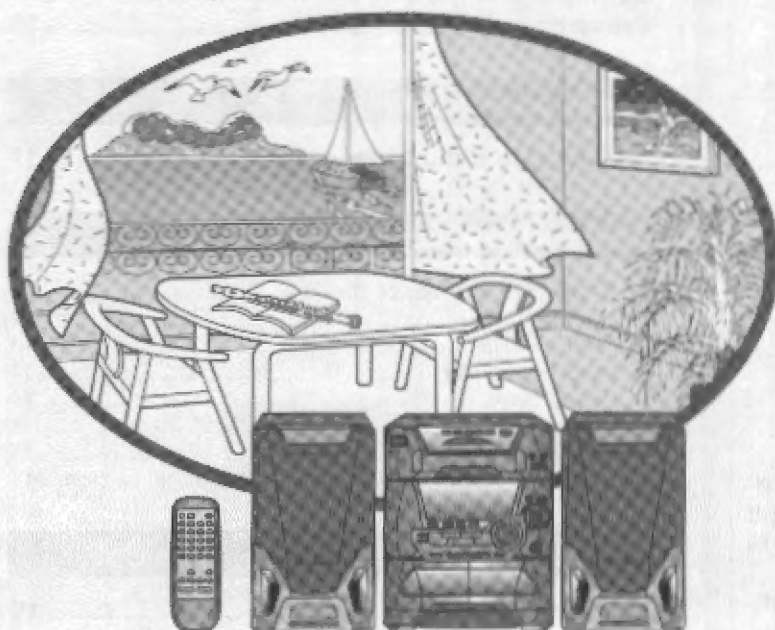


CD Stereo System

SC-AK15

Operating Instructions



COMPACT
disc
DIGITAL AUDIO

Panasonic®

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following systems.

System	SC-AK15
Main unit	SA-AK15
Speakers	SB-AK15

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER _____

SERIAL NUMBER _____

User memo:

DATE OF PURCHASE _____

DEALER NAME _____

DEALER ADDRESS _____

TELEPHONE NUMBER _____

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

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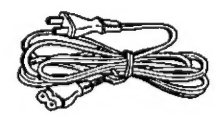
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Supplied accessories

 Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts.

To order accessories call PASC Accessory Dept.
1-800-211-7262.

☐ AC power supply cord 1 pc.
(SJA172)



☐ FM indoor antenna (RSA0006) 1 pc.



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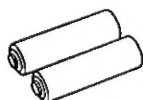
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Before moving or shipping this unit ...	Back cover

- ☐ AM loop antenna set (RSA0022)
- AM loop antenna 1 pc.
 - AM antenna holder 1 pc.



- ☐ Remote control transmitter (RAK-CH940WK) 1 pc.
- ☐ Batteries 2 pcs.
[R6/LR6, AA, UM-3]



CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Notice: This system complies with new Part 15, except for the radio receiver, which complies with old Part 15, Subpart C of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation. The radio receiver is not subject to above item (2).

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Precautions

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below. Afterwards keep them handy for future reference.

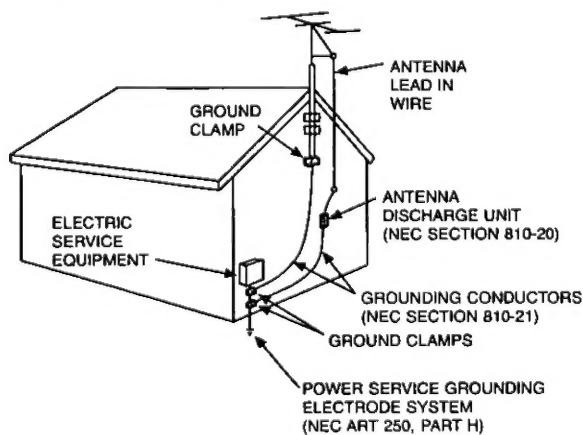
Safety

1. **Power Source**—The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
2. **Polarization**—If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
3. **Power Cord Protection**—AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
4. **Nonuse Periods**—When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

Environment

1. **Outdoor Antenna Grounding**—If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1990, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure below.



NEC—NATIONAL ELECTRICAL CODE

2. **Water and Moisture**—Do not use this unit near water—for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
3. **Heat**—The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).

4. **Condensation**—Moisture may form on the lens in the following conditions...

- immediately after a heater has been turned on.
- in a steamy or very humid room.
- when the unit is suddenly moved from a cold environment to a warm one.

If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour for the moisture to evaporate.

Placement

1. **Ventilation**—The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
2. **Foreign Material**—Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
3. **Magnetism**—The unit should be situated away from equipment or devices that generate strong magnetic fields.
4. **Stacking**—Do not place heavy objects, other than system components, on top of the unit.
5. **Surface**—Place the unit on a flat, level surface.
6. **Carts and Stands**—The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.
7. **Wall or Ceiling Mounting**—The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.



Maintenance

(See page 35 for details.)

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution.

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

Service

1. **Damage Requiring Service**—The unit should be serviced by qualified service personnel when:
 - (a) The AC power supply cord or the plug has been damaged; or
 - (b) Objects have fallen or liquid has been spilled into the unit; or
 - (c) The unit has been exposed to rain; or
 - (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
 - (e) The unit has been dropped, or the enclosure damaged.
2. **Servicing**—The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to an authorized service personnel. (Only for U.S.A.)
Call 1-800-211-7262 for the address of an authorized factory servicenter.

Listening caution



Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level **BEFORE** your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

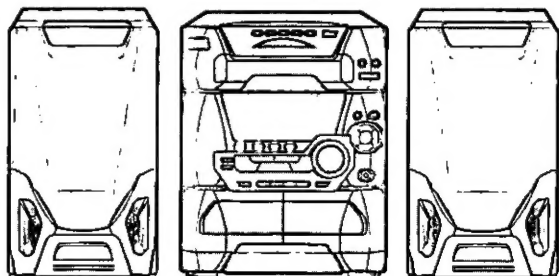
Placement of speakers

For your listening pleasure, keep your speakers from touching the stereo.

Refer to the illustration.

Speakers are designed identically so that no left or right channel orientation is necessary.

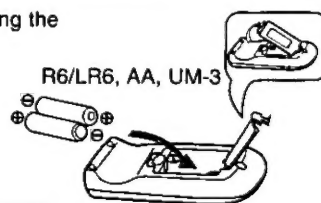
Do not take the front net off speakers.



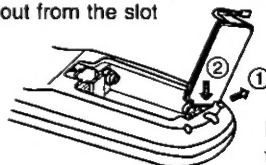
Concerning the remote control

Battery installation

Insert the batteries observing the correct polarities (+, -).



In case the battery cover comes out from the slot



Insert the battery cover back to the slot as shown.

Use of batteries

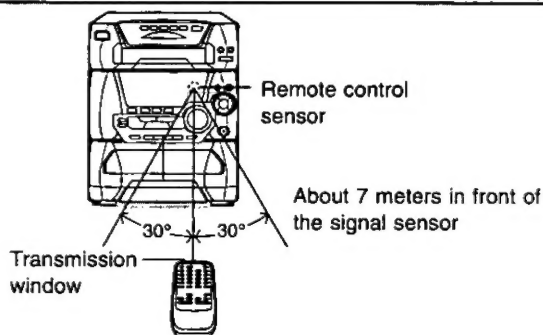
- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

Battery life

The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

Correct method of use



Operation notes

- Do not place obstacles between the remote control signal sensor and remote control unit.
- Do not expose the remote control signal sensor to direct sunlight or to the bright light of an inverter fluorescent light.
- Take care to keep the remote control signal sensor and end of the remote control unit free from dust.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.

To prevent damage

- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.

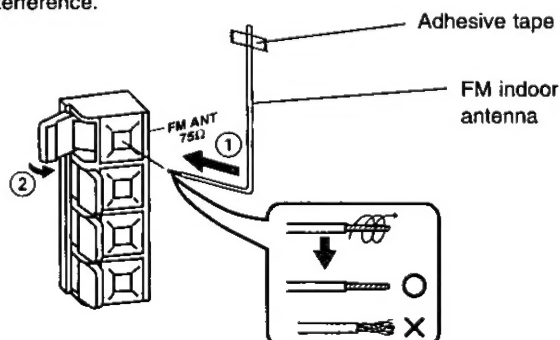
Basic connections (for supplied accessories)

Before making connections:

- Plug the AC power supply cord into a household AC outlet only after all other connections have been made.

1 FM indoor antenna

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

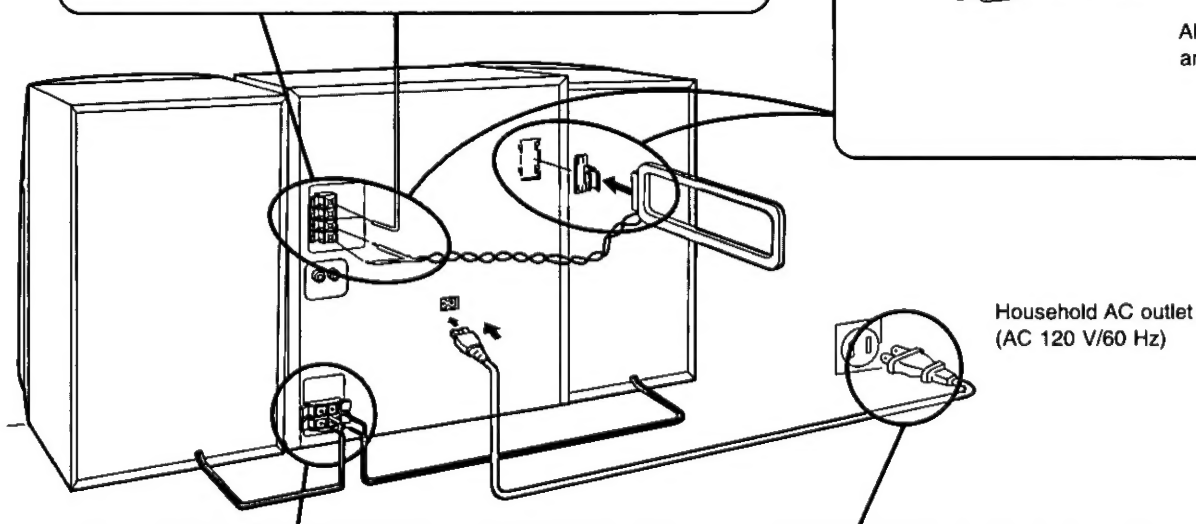
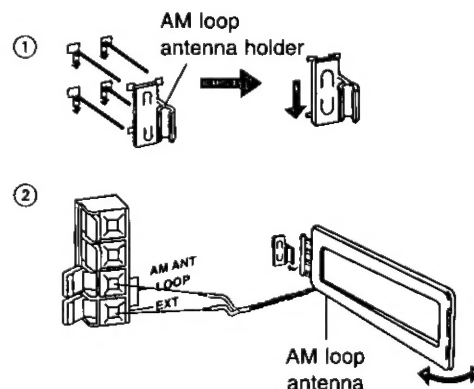


For best reception sound quality:

An FM outdoor antenna is recommended. (See page 7.)

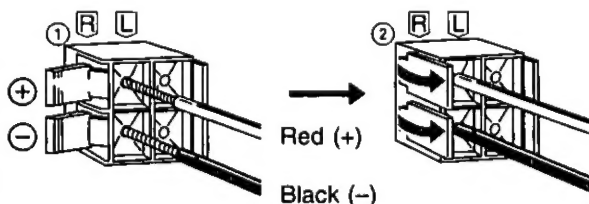
2 AM loop antenna

After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.



3 Speaker cords

Match the cords to the terminals by color and connect.



Note

To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

4 AC power supply cord

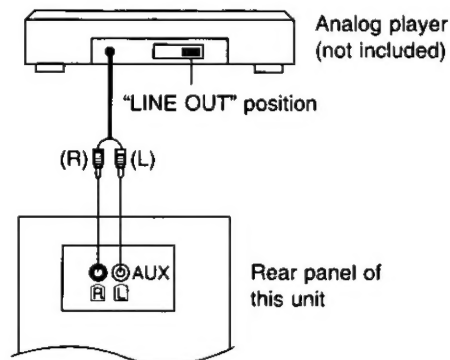


Caution

Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

External unit connection

- For details, refer to the instruction manual of the units which are to be connected.
- This example shows how to connect an analog player with the PHONO OUT/LINE OUT switch.
- When units other than those described below are to be connected, please consult with your audio dealer.



Note

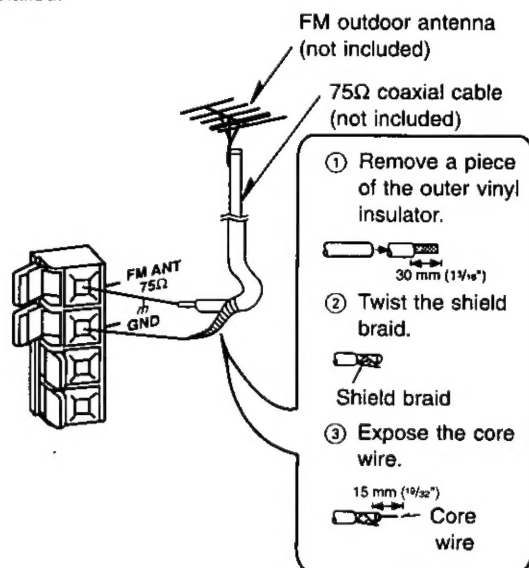
- Only an analog player with a built-in phono equalizer can be connected.
- Set the switch to the "LINE OUT" position at the back of the analog player.

Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

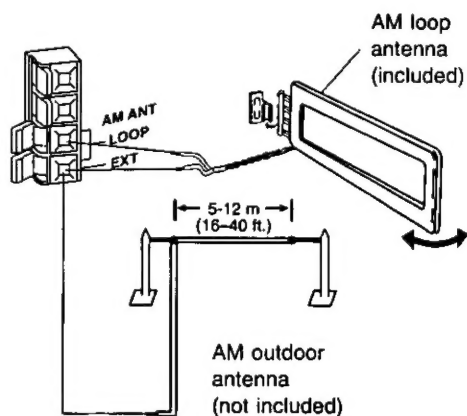


Note

An outdoor antenna should be installed by a competent technician only.

AM outdoor antenna

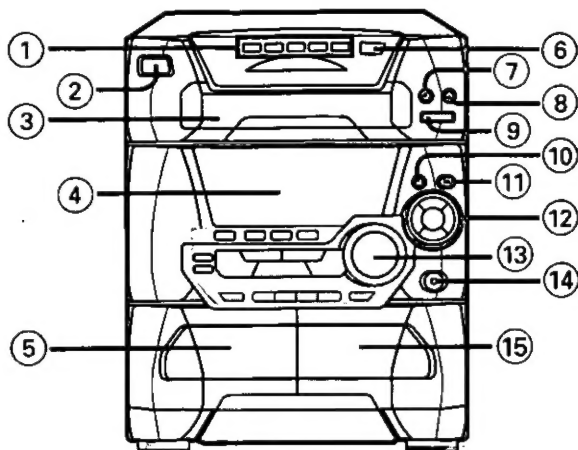
Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.



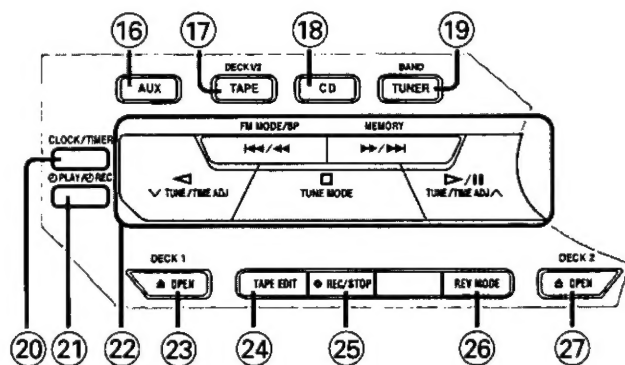
Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Front panel controls



No.	Name	Ref. page
①	Disc select buttons and indicators (DISC 1-DISC 5)	12
②	Power "STANDBY \odot /ON" switch (POWER, STANDBY \odot /ON)	9
③	Disc tray	12
④	Display	
⑤	Deck 1 cassette holder	18
⑥	CD manager button (CD MANAGER)	16, 22
⑦	Disc tray open/close button (\triangle OPEN/CLOSE)	12
⑧	Next disc tray open button (\triangle NEXT OPEN)	12
⑨	Random play button (RANDOM)	14
⑩	Display select/demonstration button (-DISPLAY/-DEMO)	9, 31
⑪	V. BASS button (V.BASS)	25
⑫	Sound equalizer buttons (SOUND EQ)	25
⑬	Volume control (VOLUME)	11
⑭	Headphone jack (PHONES)	31
⑮	Deck 2 cassette holder	20



No.	Name	Ref. page
⑯	AUX button (AUX)	31
⑰	Tape/deck select button (TAPE, DECK 1/2)	18
⑱	CD button (CD)	13
⑲	Tuner/band select button (TUNER, BAND)	10
⑳	Clock/timer button (CLOCK/TIMER)	9, 27
㉑	Play timer/record timer button (\odot PLAY/ \odot REC)	27, 28
㉒	Basic operating buttons Functions change according to the source.	
㉓	Deck 1 open button (\triangle OPEN, DECK 1)	18
㉔	Tape edit button (TAPE EDIT)	24
㉕	Recording start/stop button (\odot REC/STOP)	20
㉖	Reverse mode select button (REV MODE)	18
㉗	Deck 2 open button (\triangle OPEN, DECK 2)	18

Demo function

The demo function changes the display to simulate an airplane taking off from an airport.

Turning the demo function ON/OFF

Press POWER and hold down -DISPLAY/-DEMO.
Every time you hold down the button:

DEMO ON ↔ NO DEMO

When the demo function is ON, the demo is played automatically in the following cases.

• When the system is ON

If the input source is set to CD or tape, and the system is stopped for more than 2 minutes

• When the system is OFF

If the clock has not been set

Setting the time

This is a 12-hour display clock.

This example in the figure shows how to set the time for 6:25 p.m.

1 Switch on the power.

2 ① Press CLOCK/TIMER to select "CLOCK".

Every time you press the button:

CLOCK → ◻PLAY → ◻REC

↑ Previous display ↓

② (within 5 seconds or so)

Press V or ^ to set the time display flashing.

3 Press V or ^ to show desired time.

The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.

4 While the time display is flashing:

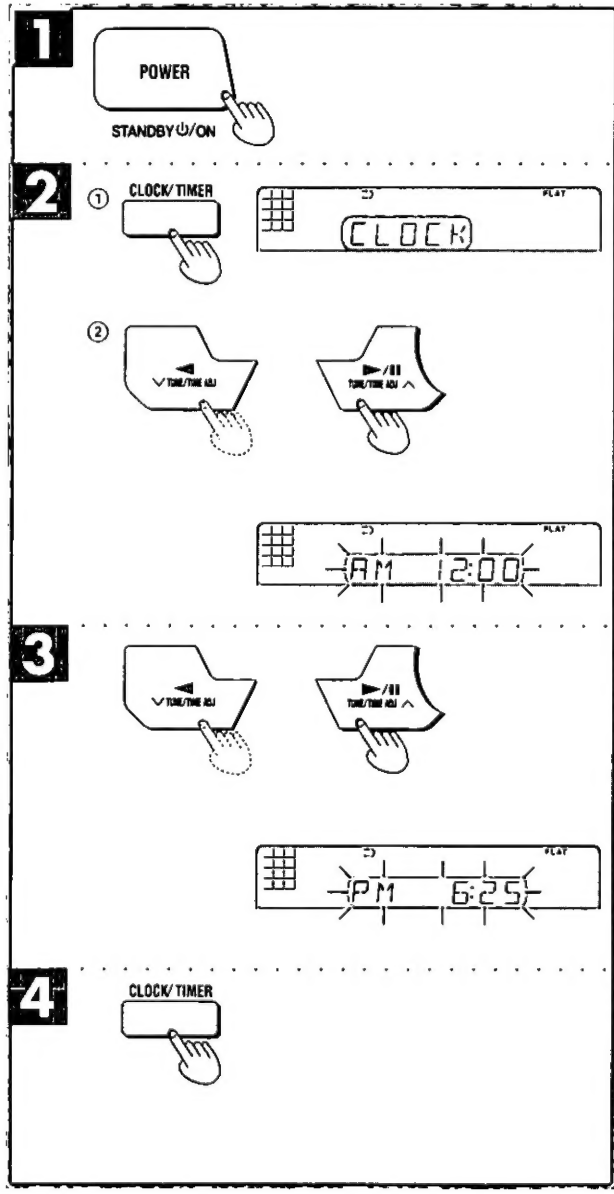
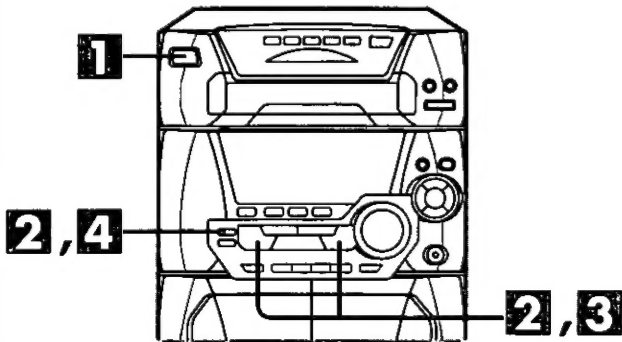
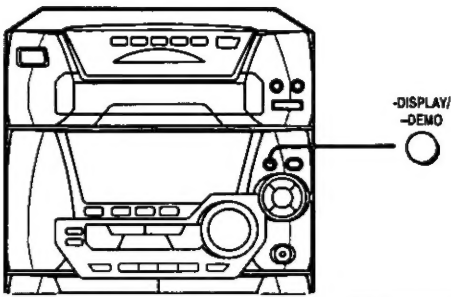
Press CLOCK/TIMER.

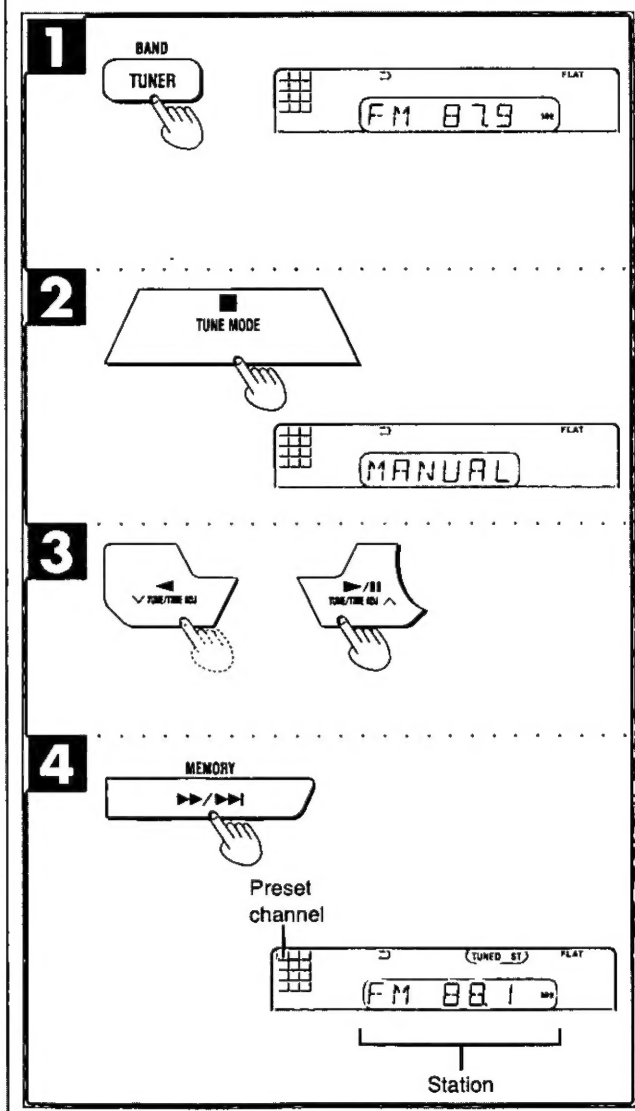
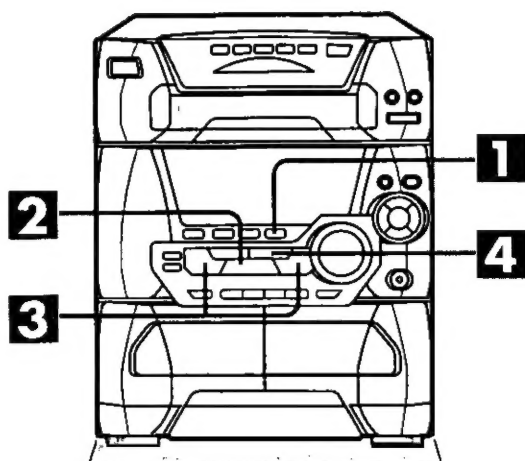
The clock now starts operating, and the display returns to its original status.

To display the time when power is ON

Press CLOCK/TIMER to select "CLOCK".

The time will be displayed for about 5 seconds and then the display will return to whatever was previously displayed.





Presetting radio broadcasts

- Up to 12 stations can each be set in the FM and AM bands automatically.
- If broadcast frequencies are preset in the memory, you can easily tune in any of these frequencies from the system or remote control unit.
- You can preset just those stations you like. (See "Presetting only your favorite stations" below.)

1 Press TUNER BAND to select "FM" or "AM".

The power will come on automatically.

Every time you press the button: FM ↔ AM.

2 Press TUNE MODE to select "MANUAL".

Every time you press the button: MANUAL ↔ PRESET.

3 Press V or ^ until the display shows the frequency from which you want to begin automatic memory presetting.

Tips on tuning in radio stations

- ① Hold down either arrow button until the frequency numbers start scrolling.
- ② When near to the frequency you are looking for, press the button repeatedly until the station is tuned in.

4 Press and hold MEMORY until the frequency begins to change.

This will start presetting automatically. When finished, the radio will tune in the last station memorized.

If auto presetting is not possible because radio signals are weak or for some other reason, do the following.

Presetting only your favorite stations

Preset the stations one at a time.

1. Perform step 1 above. Then, press MEMORY ("MEMO" flashes) and select a station with V or ^.
2. While "MEMO" is flashing, press MEMORY again and select a preset channel with V or ^.
3. Press MEMORY to preset the station.

Memory retention

Your preset is retained in memory for about 2 weeks while the system is unplugged.

FM allocation setting

By adjusting the allocation, you can enable this tuner to receive FM broadcasts allocated in 0.1 MHz steps.

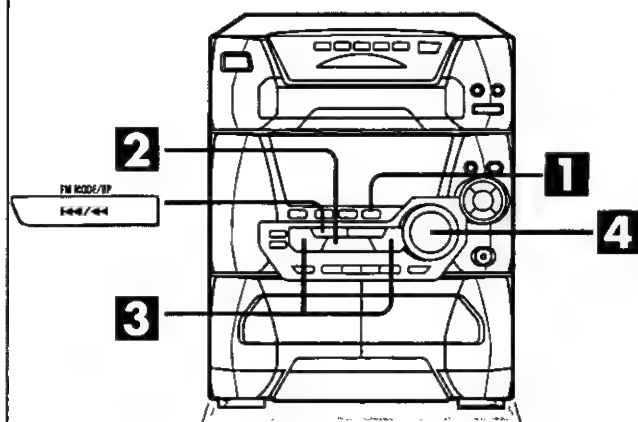
Press and hold TUNER BAND. After a few seconds the display will change to a flashing display of the current minimum FM frequency. If you continue to hold the button down, the minimum frequency will change. Release the button at this time.

To return to the original frequency indication, repeat above.

Note

After changing the "allocation" setting, the frequencies you previously preset in the memory will be cleared.

Listening to radio broadcasts



1 Press TUNER BAND to select "FM" or "AM".

The power will come on automatically.

Every time you press the button: FM ↔ AM.

2 Press TUNE MODE to select "PRESET" or "MANUAL".

Every time you press the button: MANUAL ↔ PRESET.

PRESET: For preset stations

MANUAL: For non-preset stations

3 Press V or ^ to select the desired broadcast.

"ST" lights when an FM stereo broadcast is being received.

"TUNED" lights when you precisely tune in a broadcast station.

4 Adjust the volume level.

Auto tuning

Auto tuning is an easy way to tune in non-preset stations in the "MANUAL" mode.

Hold down either V or ^, and release the button when the frequency starts scrolling.

The radio will stop automatically on the first station it picks up.

- When there is outside interference, the radio sometimes stops on a certain frequency where no station is broadcasting.

To stop auto tuning

Press either V or ^ again.

If noise is excessive in the FM stereo mode

Press FM MODE/BP. "MONO" will light up.

Sound will be produced in monaural, but this also reduces noise.

Press the button again to cancel. "MONO" will go out.

Normally, you'll want to listen in stereo, so leave "MONO" off. This way, you can listen to stereo broadcasts in stereo, and monaural broadcasts in mono.

You can preset an FM station in monaural by following the steps under "Presetting only your favorite stations" on page 10. After selecting the station in step 1, select "MONO" with FM MODE/BP, then continue with steps 2 and 3.

Note

- If you preset stations in memory, you can tune in a preset station by simply selecting the preset channel with the numeric buttons on the remote control.

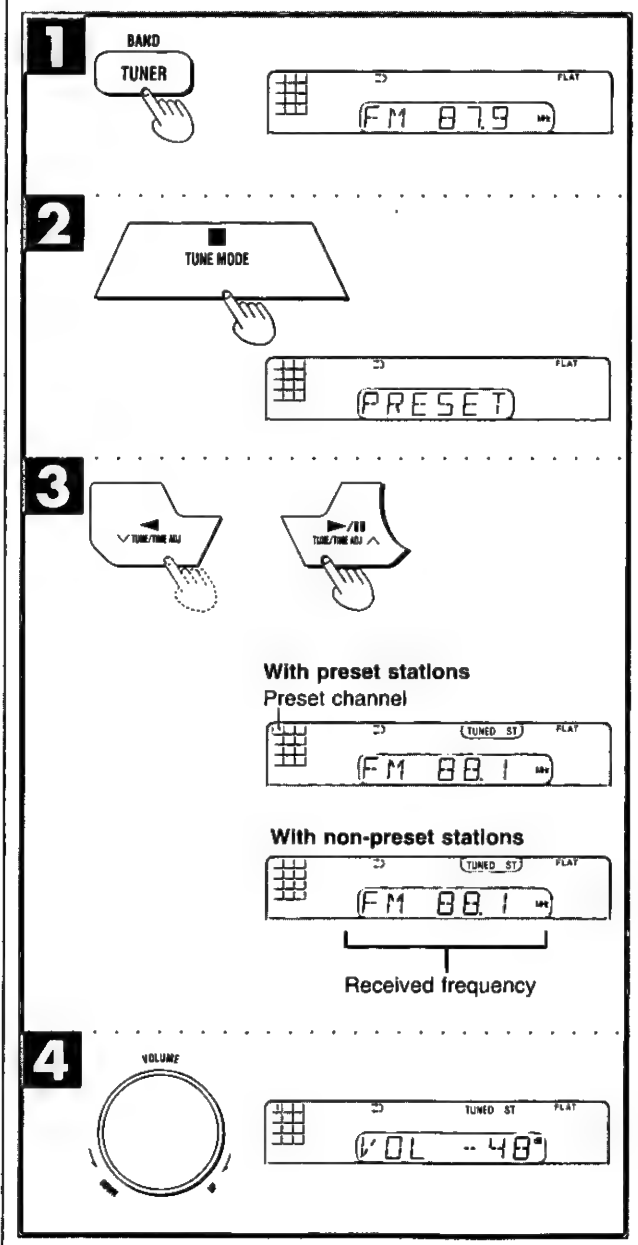
1. Press TUNER on the remote control.

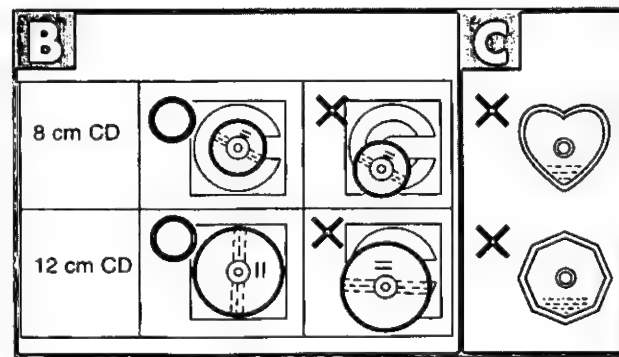
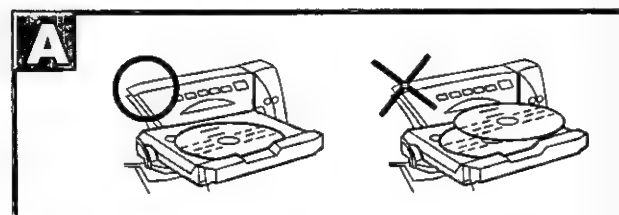
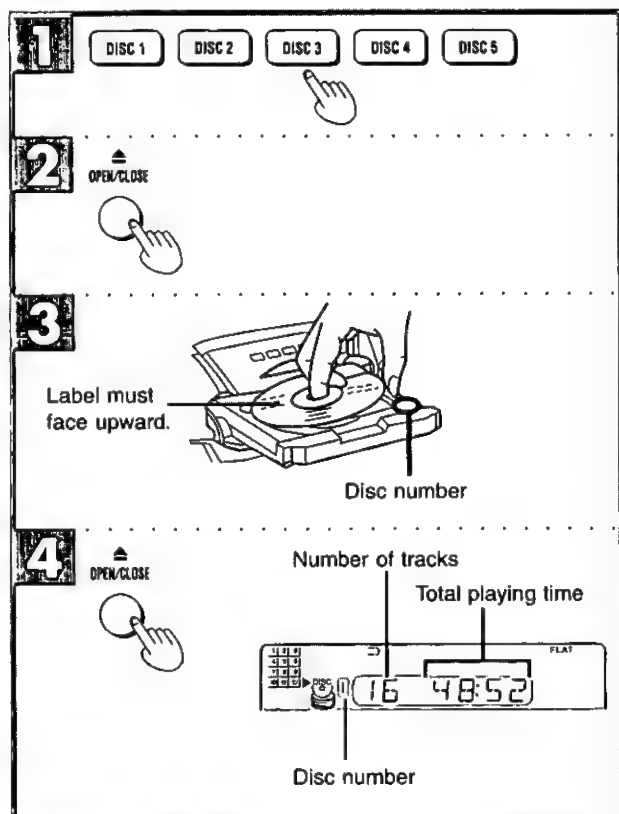
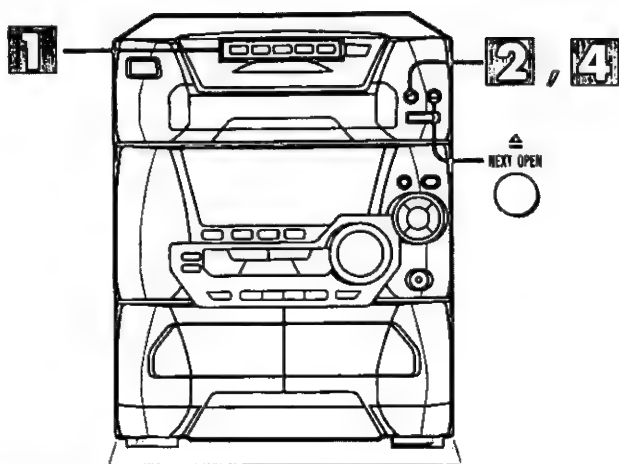
2. Press the numeric button(s) to select the desired preset channel.

To select a two-digit channel:

Press ≥ 10 and then the two numbers you want within 10 seconds or so.

- Sound is momentarily interrupted if you load/unload tapes while listening to an AM broadcast.





Listening to compact discs

Loading and checking CDs

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.

How to load CDs

- 1** Press DISC 1-DISC 5, whichever you want to open.
The power will come on automatically.
- 2** Press Δ OPEN/CLOSE.
The selected tray will open.
- 3** Set CD in the tray.
- 4** Press Δ OPEN/CLOSE.
The tray will close and the disc No., number of tracks and total playing time will be shown on the display.

To load several CDs consecutively or to check which trays have discs

Press Δ NEXT OPEN.

Every time you press the button, the next tray will open. After loading all the CDs you want, press Δ OPEN/CLOSE to close the tray.

Disc indicators (DISC 1~DISC 5)

Disc indicators will act as follows whether the tray is loaded or not.

Green	When selected (When in the playing position)
Lights off	In all other cases

To prevent damage

Always observe the following points.

- Load only 1 CD per tray. **A**
- Load CDs as shown in figure **B**.
The adapter is not needed with 8 cm CDs (singles).
- Set the system on a flat, level surface.
Do not set it on top of magazines, inclined surfaces, etc.
- Do not move the system while trays are opening/closing, or when loaded.
Always unload all CDs and set the system to "shipping mode" (back cover) before moving the system.
- Do not put anything except CDs in trays.
- Do not use cleaning CDs or CDs which are badly warped or cracked.
- Do not use CDs with poorly attached labels or stickers.
Adhesive protruding from underneath stickers or left over from peeled off stickers can cause your stereo to malfunction.
- Do not use irregular shape CDs (heart-shape, octagonal, etc.). **C**

Listening to compact discs

Sequential play

1 Press CD.

The power will come on automatically.

2 Insert CDs in the trays.

(For details, see page 12.)

3 Press ▶/II.

Play will start from the first track on the disc shown on the display, and will continue until the last track of the final disc is played (see below).

4 Adjust the volume level.

To stop the disc play

Press □.

When "▶" appears on the display

It indicates there are 13 or more tracks on the disc in the playing position.

What is meant by "final disc"?

For example, if play starts from disc 4, disc 3 will be the "final disc".

Order of progression:

Disc 4→5→1→2→3

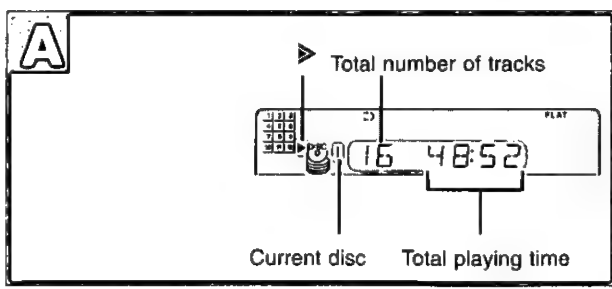
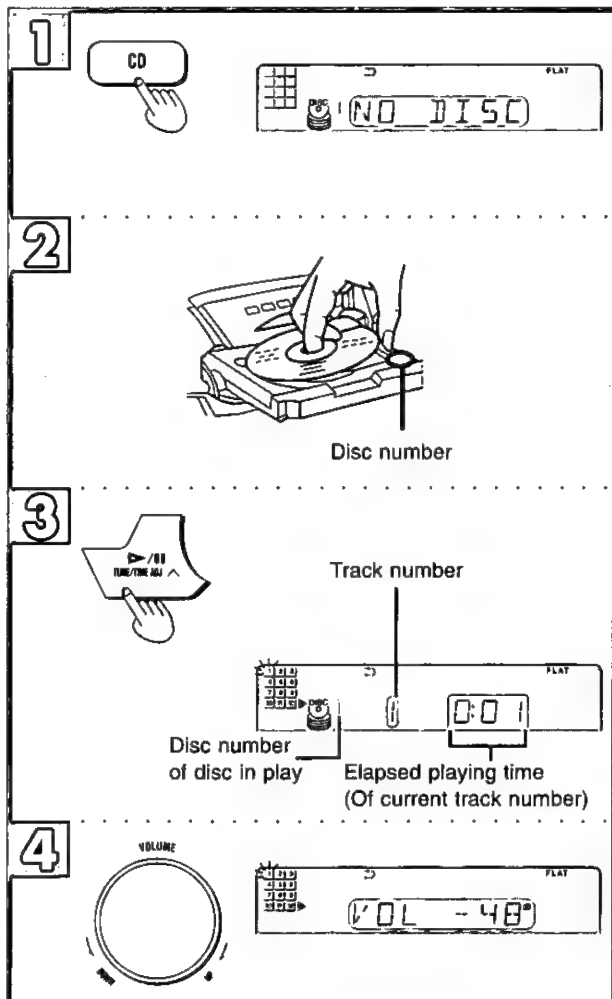
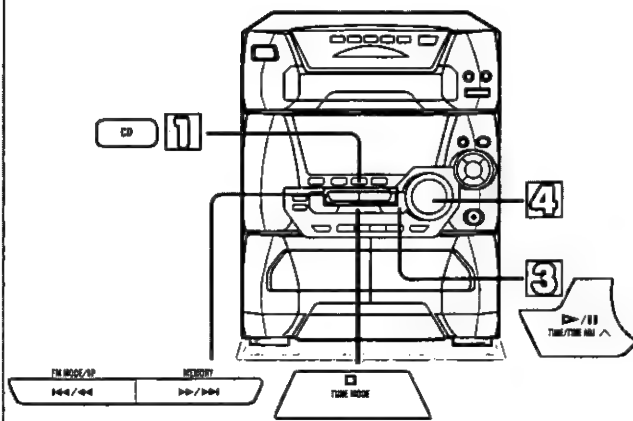
To pause	Press ▶/II during playback. To resume playback, press ▶/II.
To search forward/backward (Search)	Hold down ◀◀/▶▶ (backward) or ▶▶/▶▶ (forward) during playback or pause mode.
To skip forward/backward	Press ◀◀/▶▶ (backward) or ▶▶/▶▶ (forward) during playback or pause mode.

Note

- During random play (page 14), you cannot skip to tracks which have already been played.
- During program play (page 15) or random play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.

One-touch play

When power is OFF, playing starts automatically when you press CD.



Listening to compact discs

Direct access play

To listen to a favorite CD

Press DISC 1–DISC 5, whichever disc you want.

The selected CD will be played from the first track to the last track of the final disc (page 13).

To listen to a favorite track

by remote control only

1 Press CD.

2 Press DISC.

3 (within 10 seconds or so)
Press 1–5 to select the disc you want.

4 Press the numeric button(s) to select the desired track number.

The CD will be played from the selected track to the last track of the final disc (page 13).

To select a two-digit track

Press ≥ 10 and then the two numbers you want within 10 seconds or so.

For example

Track no. 20: $\geq 10 \rightarrow 2 \rightarrow 0$

Track no. 35: $\geq 10 \rightarrow 3 \rightarrow 5$

Repeat play

by remote control only

Press REPEAT before or during play. 

All tracks on the loaded CD are repeated.

To cancel repeat play

Press REPEAT once again.

To repeat your favorite tracks

1. Program the tracks you want (page 15).
2. Press REPEAT and make sure "↺" is displayed.
3. Press $\triangleright/\text{II}/\wedge$. Playback will start.

To repeat just one track

Set the 1-TRACK play mode (page 16), press REPEAT before or during playback, and make sure "↺" is displayed.

Random play

Press RANDOM. 

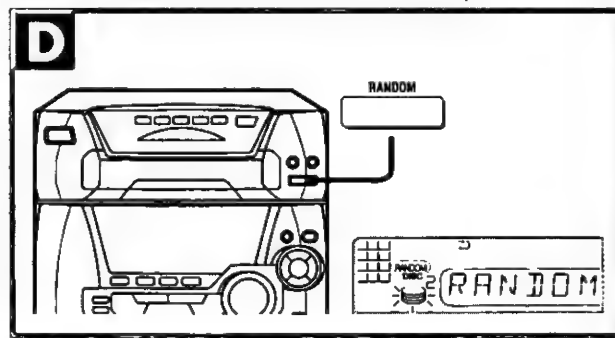
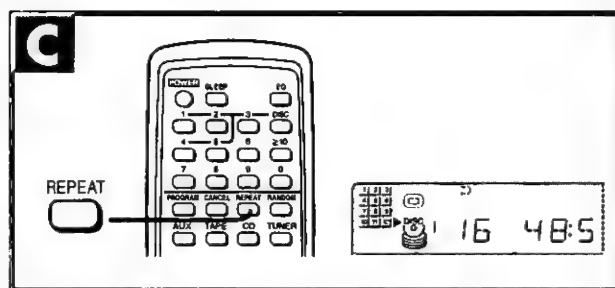
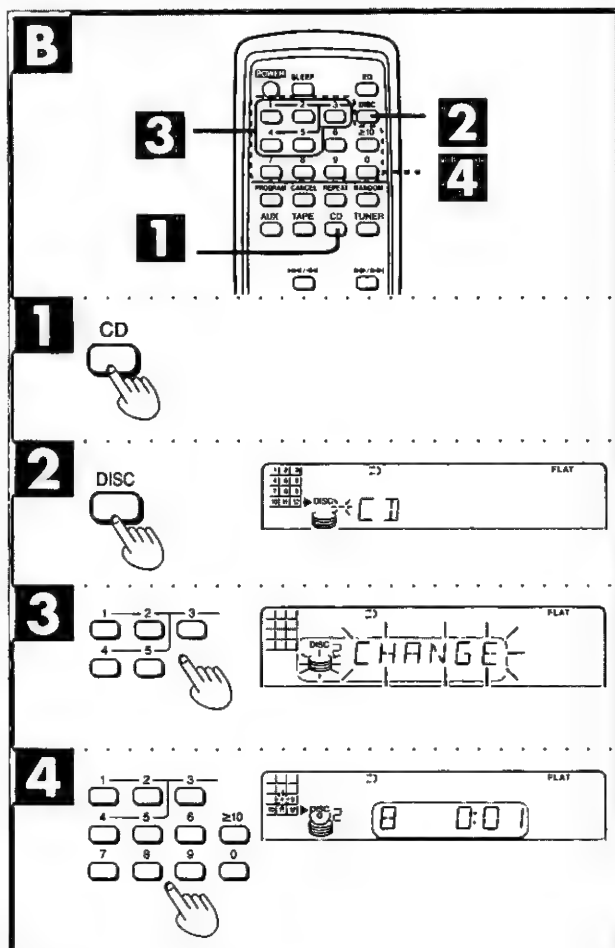
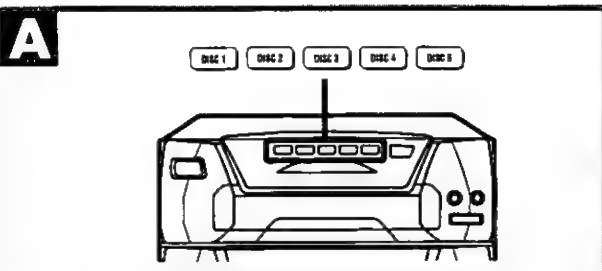
All tracks on the loaded CDs will be played in random order. Playback will stop automatically when all tracks have been played.

To cancel random play

Press RANDOM once again.

Note

You can use random play with your program. Only the programmed tracks will be played, but in random order.



Listening to compact discs

Program play

by remote control only

You can program up to 24 tracks.

- 1** Press CD.
Ensure CD is stopped.
- 2** Press PROGRAM.
- 3** Press DISC.
- 4** (within 10 seconds or so)
Press 1–5 to select the disc you want.
- 5** Press the numeric button(s) to select the desired track.
- 6** Repeat steps **3** through **5** until you have programmed all the tracks you want.
- 7** Press ►/II/△.
Play will start in the programmed sequence.

To cancel program play mode

Press PROGRAM in the stop mode.

Programmed contents will be saved in memory. Pressing ■ will cancel program play, but it will also erase the entire program.

To select a two-digit track

Press ≥10 and then the two numbers you want.

For example

Track no. 20: ≥10→2→0

Track no. 35: ≥10→3→5

When "CD FULL" appears

The number of programmed tracks is limited to 24. No further tracks can be programmed.

You can do the following during program mode **4**

- Check program contents.
Press I◀◀/◀◀ or ▶▶/▶▶.
Every time you press one of the buttons, the track and program No. are shown on the display.
- Add to the program.
Repeat steps **3** through **5**.
- Cancel entries.

From the last programmed track	Press CANCEL.
A specified track only	Select the track with I◀◀/◀◀ or ▶▶/▶▶, and press CANCEL within 3 seconds.
All tracks	Press ■.

Memory retention

Your program is retained in memory for about 2 weeks while the system is unplugged.

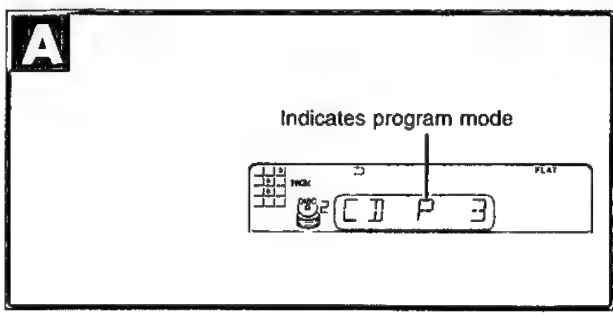
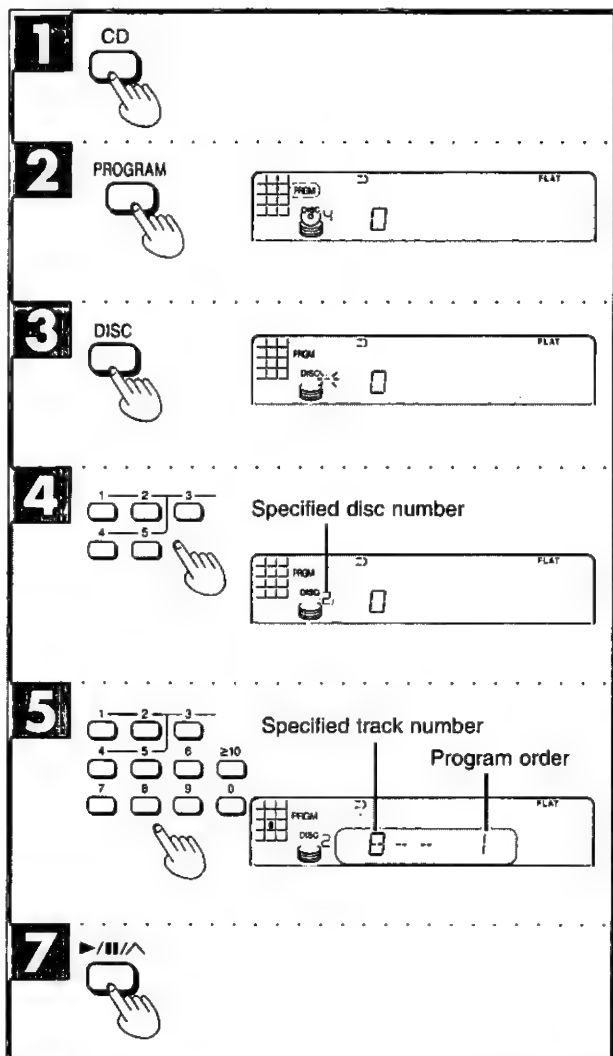
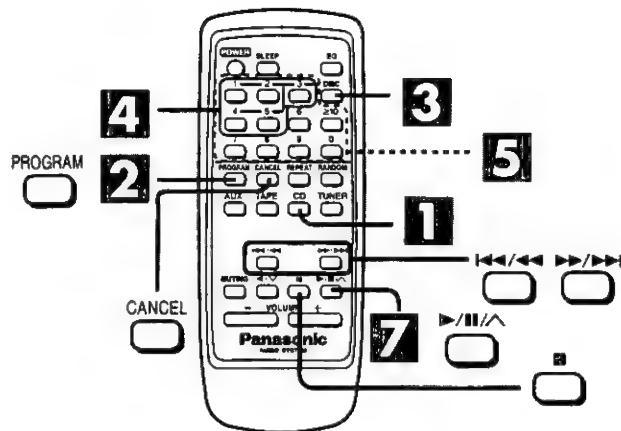
To replay your program

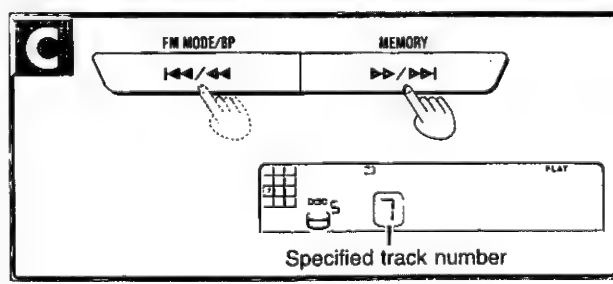
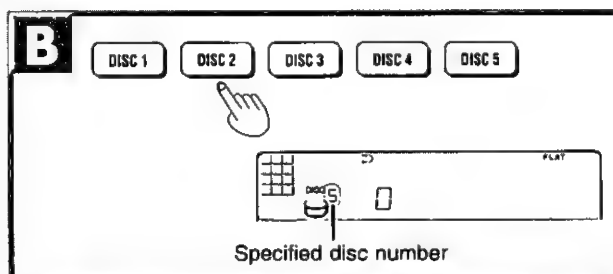
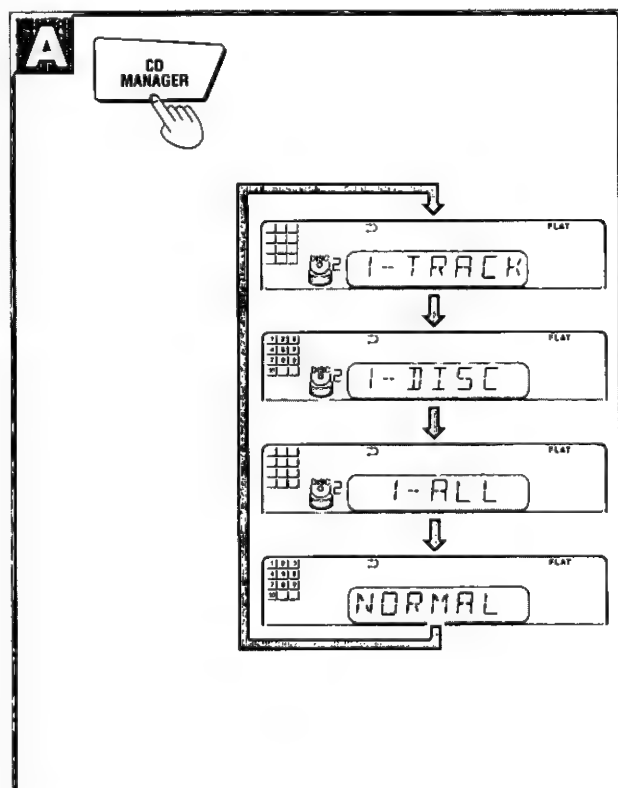
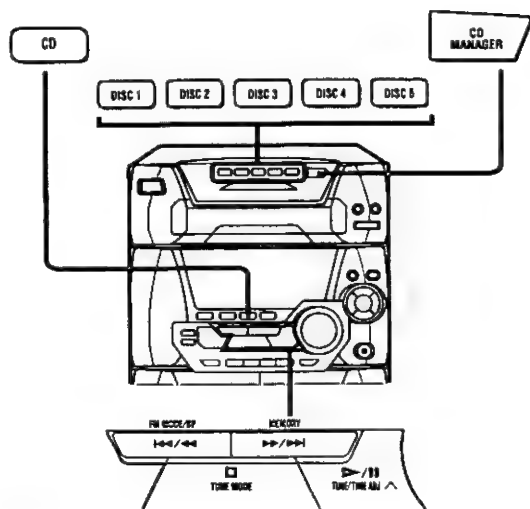
If you turned OFF your program with PROGRAM, you can play it again as explained below.

1. Press PROGRAM.
2. Press ►/II/△.

If you program a track not on your CDs

The track is initially programmed, but during program play, the player will skip that track and will continue playing from the next programmed item.





Listening to compact discs

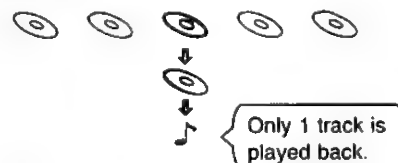
To listen to special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

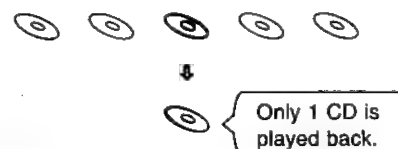
You can use this function to make recordings as well.

There are 3 CD/track selection modes.

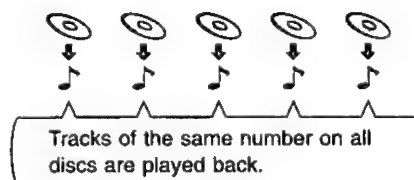
- For playing back 1 track only from all loaded CDs
1-Track mode (1-TRACK)



- For playing back 1 CD only from all loaded CDs
1-Disc mode (1-DISC)




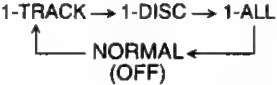
- For playing back 1 track on all loaded CDs
1-Track All-Disc mode (1-ALL)




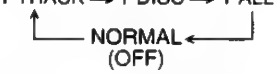
To listen to 1 track only (1-TRACK)

- 1 Press CD.**
Ensure CD is stopped.
- 2 Press CD MANAGER to select "1-TRACK".**
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL
NORMAL (OFF)
- 3 Press DISC 1-DISC 5 to select the disc you want.**
Note
The button lamp of the selected CD will not light up until playback starts.
- 4 Press <</>> or >>/>> to select the desired track.**
- 5 Press >/II.**
The selected track will start.

To listen to 1 CD only (1-DISC)

- 1 Press CD.**
Ensure CD is stopped.
- 2 Press CD MANAGER to select "1-DISC".** 
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL

- 3 Press DISC 1-DISC 5 to select the disc you want.**
Note
The button lamp of the selected CD will not light up until playback starts.
- 4 Press ►/II.**
The selected CD will be played from the first track to the last.

To listen to the same numbered track on all CDs (1-ALL)

- 1 Press CD.**
Ensure CD is stopped.
- 2 Press CD MANAGER to select "1-ALL".** 
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL

- 3 Press either ◀◀/◀◀ or ▶▶/▶▶ to select the desired track.**
- 4 Press ►/II.**
The same numbered track on CDs 1 through 5 will be played in order from CD 1 to CD 5.

When playback ends

"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn OFF automatically.

To stop play

Press .

When you select the wrong CD or track

• 1-TRACK mode

To reselect a track on the same CD

Press either ◀◀/◀◀ or ▶▶/▶▶ to select the track.

To reselect a track on another CD **by remote control only**

Press DISC on the remote control and, within 10 seconds, select a CD No. between 1 and 5. Then, select the track with the numeric buttons.

• 1-DISC mode

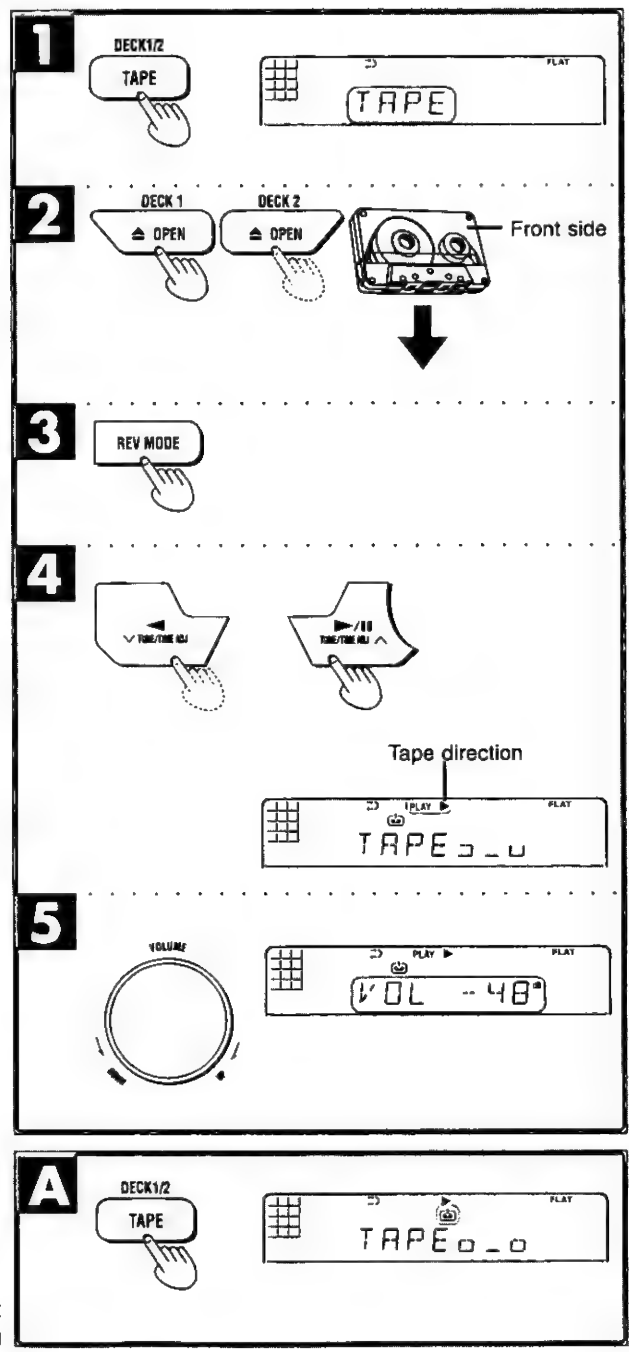
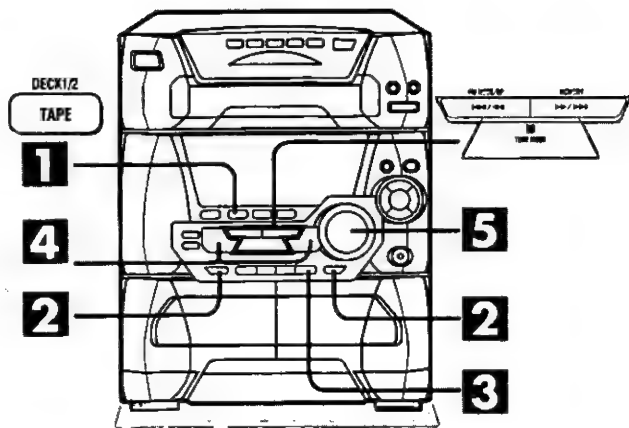
Reselect a CD with DISC 1 – DISC 5.

• 1-ALL mode

Reselect the track with the numeric buttons on the remote control.

Note

- You can use the repeat function (page 14) and random play (page 14) at the same time. However, you can only select the repeat function in 1-TRACK mode.
- During 1-ALL mode, you cannot skip to a disc which has already finished.
- During 1-ALL mode, if the selected track is not found on a certain CD, the player automatically skips that CD and continues playing from the next CD.



Listening to tapes

Types of tapes which can be played correctly:
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	<input type="radio"/>
HIGH POSITION/TYPE II	<input type="radio"/>
METAL POSITION/TYPE IV	<input type="radio"/>

You can use either deck 1 or deck 2 for tape playback.

- 1 Press TAPE DECK 1/2.**
The power will come on automatically.
- 2 Press \triangle OPEN DECK 1 or \triangle OPEN DECK 2 and insert the tape.**
Insert the tape with the exposed tape facing down.
Close the holder by hand.
- 3 Press REV MODE to select the reverse mode.**
Every time you press the button:
 - \Rightarrow : One side is played, then playback stops automatically.
 - $\Rightarrow \Leftarrow$: Both sides (front side \rightarrow reverse side) are played one time each, then playback stops automatically.
 - \Leftrightarrow : Both sides are played 8 times each, then playback stops automatically.
- 4 Press \blacktriangleleft or \blacktriangleright to start playback.**
 - \blacktriangleright : The forward side (front side) will play.
 - \blacktriangleleft : The reverse side will play.
- 5 Adjust the volume level.**

To stop tape playback
Press \blacksquare .

To change the deck to be used **A**
Press TAPE DECK 1/2 to select the deck you want to use when you load cassettes into both decks.

To listen to 2 tapes consecutively
Load a tape into each deck and select " \Leftrightarrow ". Both tapes will be played 8 times each.

Note
Playback is interrupted while playing back tapes, if you open the other deck.

One-touch play
When power is OFF, play starts automatically when you press TAPE DECK 1/2.

To fast-forward or rewind the tape

Press **⏮/⏪** or **⏭/⏩** in the stop mode.

Tape direction	To rewind	To fast-forward
"▶"	⏮/⏪	⏭/⏩
"◀"	⏭/⏩	⏮/⏪

To find the beginning of a program (TPS: Tape Program Sensor)

Press **⏮/⏪** or **⏭/⏩** during play.

Tape direction	To play the current tune from the beginning	To play the next tune from the beginning
"▶"	⏮/⏪	⏭/⏩
"◀"	⏭/⏩	⏮/⏪

Note

The TPS function searches for silent parts of about 4 seconds in length which are normally found between tunes. As a result, it may not function properly in the following cases

- With short silent parts
- When noise occurs between tunes
- With silent parts found within tunes

Before recording (Deck 2 only)

Types of tapes which can be recorded correctly

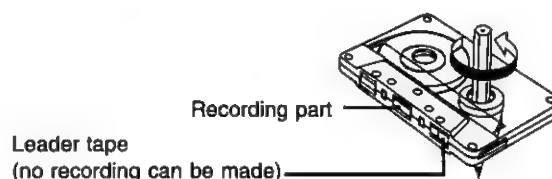
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	×

This system cannot make a recording or erasing correctly, if metal position tapes are used.

To record from the beginning of the tape

You cannot record on the leader part of the tape. Before recording, wind the tape past the leader to a point where recording can start immediately.



How volume, sound quality/field and V. BASS affect recording

The tape you are recording is not affected whatever by changes in volume, sound quality/field or V. BASS.

- In recording, sound quality/field are set automatically to "FLAT".
- You can change volume and V. BASS effect for the playback sound.

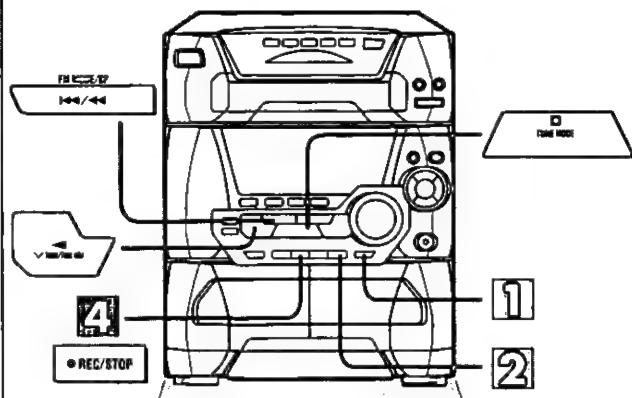
To erase a recorded sound

1. Press TAPE DECK 1/2.
2. Insert the recorded tape into Deck 2.
3. Press REV MODE to select reverse mode.
4. Press ●REC/STOP.

Note

- You cannot open Deck 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.

Recording from radio broadcasts



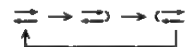
1 Press **△OPEN DECK 2** and insert the tape.

Close the holder by hand.

Tape direction is automatically set to "▶".

2 Press **REV MODE** to select the reverse mode.

Every time you press the button:



▶ : One side is recorded, then recording stops automatically.

▶ , ◀ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Select a radio station. Perform steps 1 through 3 on page 11.

4 Press **●REC/STOP** to start recording.

If you selected "◀▶" in step 2, the direction will automatically change to "▶" when recording starts.

To stop recording

Press **●REC/STOP** again.

Recording can also be stopped by pressing **□**.

To start recording on the reverse side

Load a tape and change the tape direction as following.

1. Press **TAPE DECK 1/2** and select tape Deck 2.
2. Press **◀** and immediately thereafter **□**. The tape direction will be shown as "◀".

To record from a specific point on a tape

Before recording, advance the tape to the point from where you want to start recording.

To cut an unnecessary part while recording

1. Press **●REC/STOP** during the unnecessary part. The cassette deck will go into the stop mode.
2. Press **●REC/STOP** to resume recording again. Recording will continue in the same direction as before.

Note

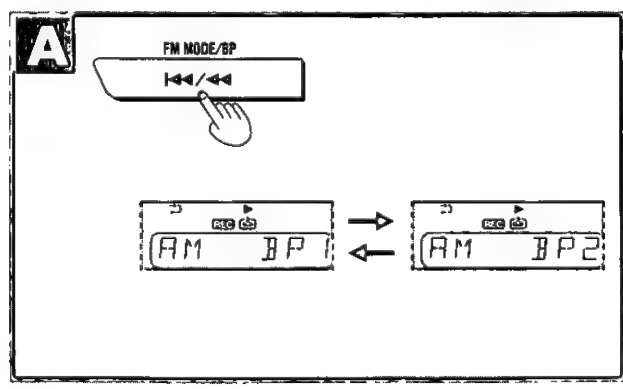
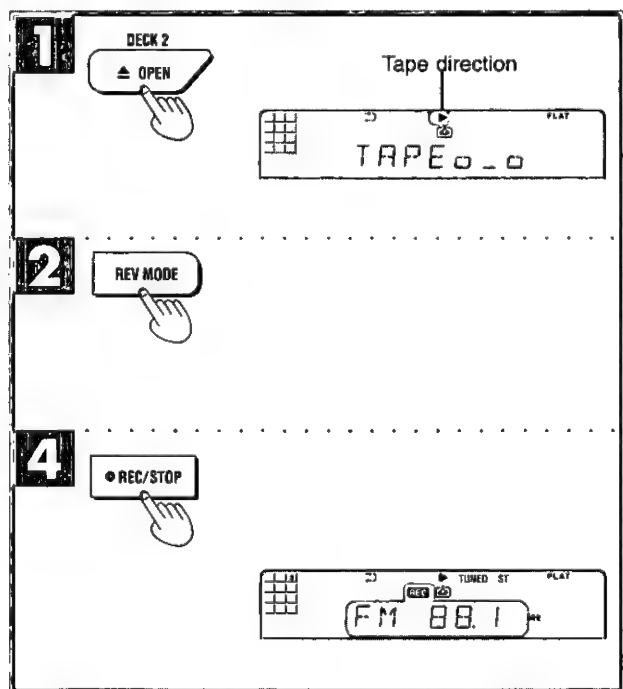
When recording an AM broadcast, sound is momentarily interrupted when you start and stop the recording.

To reduce noise while recording an AM broadcast (Beat proof function) **Ⓜ**

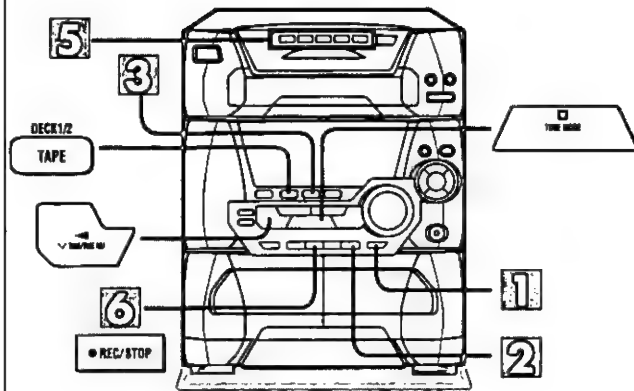
Press **FM MODE/BP** while recording.

Each time you press the button, BP 1 and BP 2 will be displayed alternately.

Select the position where there is less noise.



Recording from compact discs



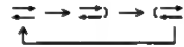
1 Press **△ OPEN DECK 2** and insert the tape.

Close the holder by hand.

Tape direction is automatically set to "▶".

2 Press **REV MODE** to select the reverse mode.

Every time you press the button:



▶ : One side is recorded, then recording stops automatically.

▶ , ◀ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Press **CD**.

4 Load CDs into each of the trays.

(See page 12).

5 Press **DISC 1 – DISC 5** to select the disc you want.

Pressing □ will stop playback.

6 Press **◻ REC/STOP** to start recording.

- If you selected "◀▶" in step 2, the direction will automatically change to "▶" when recording starts.
- The recording will proceed from the first track on the selected CD and will continue on through the last track of the final disc (page 13).
- The tape deck stops automatically when the CD is finished.

To stop recording

- To add a 4 second silent interval before stopping
Press □. The CD will stop automatically too.
- To stop recording without a silent interval
Press ◻ REC/STOP. The CD will stop automatically too.

To start recording on the reverse side

Load a tape and change the tape direction as following.

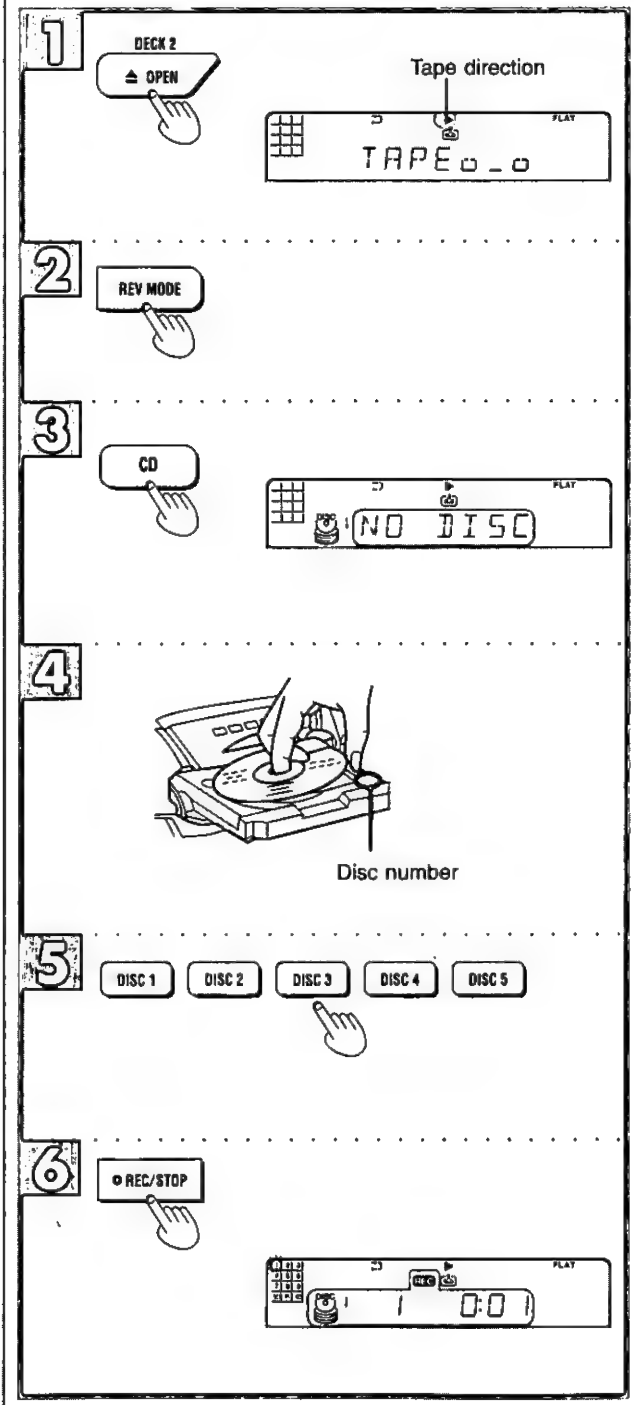
1. Press **TAPE DECK 1/2** and select tape Deck 2.
2. Press ◀ and immediately thereafter □. The tape direction will be shown as "◀".

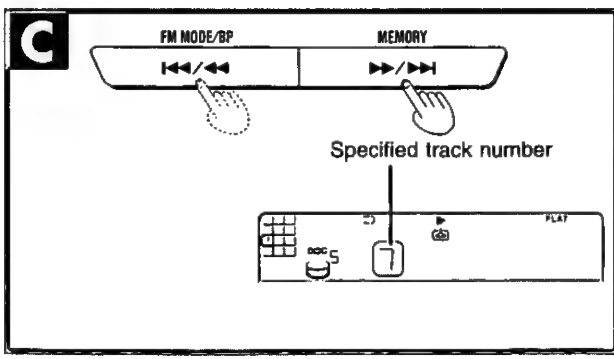
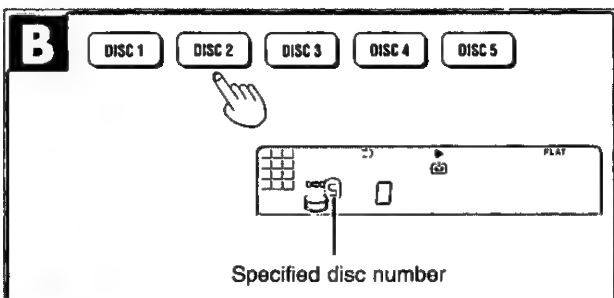
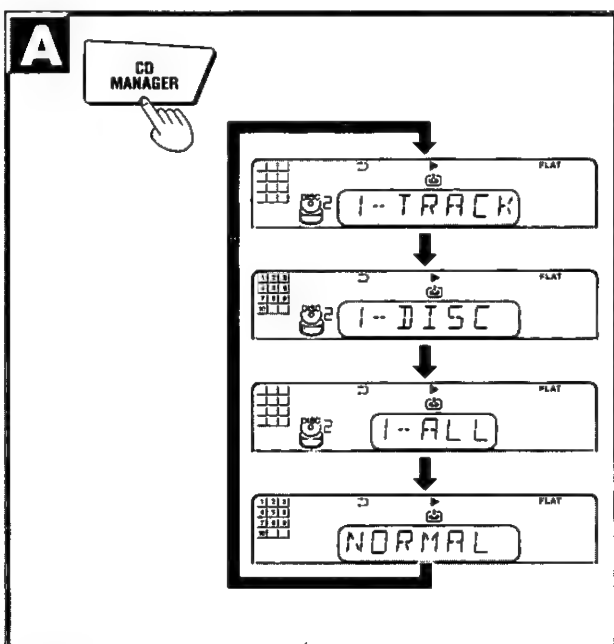
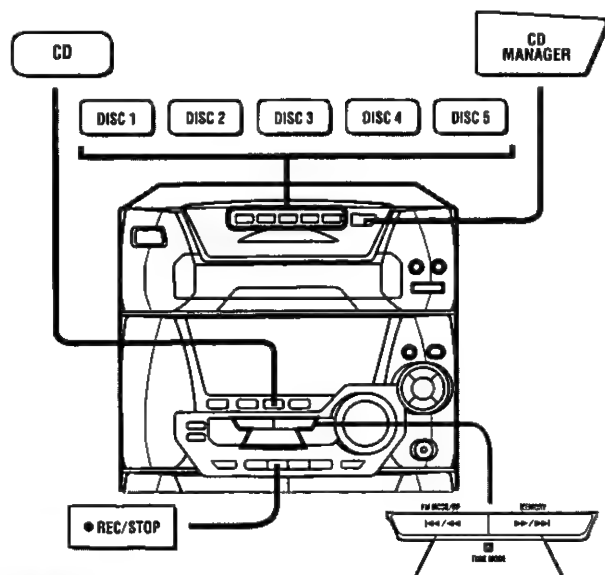
To record from a specific point on a tape

Before recording, advance the tape to the point from where you want to start recording.

To record programmed tracks

1. After step 4, program the track you want (perform steps 2 – 6 on page 15.)
2. Press ◻ REC/STOP to start recording.



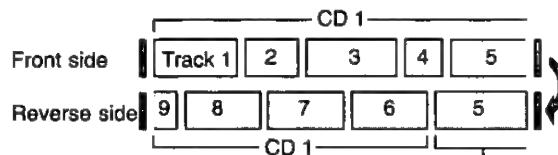


Recording from compact discs

To record special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

- While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning, on the reverse side.



The interrupted track is re-recorded in its entirety on the reverse side.

- At the end of the reverse side, recording stops and the current track will be interrupted.

Before recording

Prepare the tape you want to use. Perform steps **1** and **2** on page 21.

To record 1 track only (1-TRACK)

- 1** Press CD.
- 2** Press CD MANAGER to select "1-TRACK". **A**
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL
↑
NORMAL (OFF)
- 3** Press DISC 1-DISC 5 to select the disc you want. **B**
Note
The button lamp of the selected CD will not light up until playback starts.
- 4** Press ◀◀/▶▶ or ▶▶/▶▶ to select the desired track. **C**
- 5** Press •REC/STOP.
The selected track will be recorded.

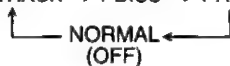
To record 1 CD only (1-DISC)

1 Press CD.

2 Press CD MANAGER to select "1-DISC". **A**

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL



3 Press DISC 1-DISC 5 to select the disc you want.

Note

The button lamp of the selected CD will not light up until playback starts.

4 Press •REC/STOP.

The selected CD will be recorded.

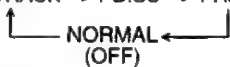
To record the same numbered track on all CDs (1-ALL)

1 Press CD.

2 Press CD MANAGER to select "1-ALL". **A**

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL



3 Press ◀◀/◀◀ or ▶▶/▶▶ to select the desired track.

4 Press •REC/STOP.

The same numbered track on CDs 1 through 5 will be recorded in order from CD 1 to CD 5.

When recording ends

"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn OFF automatically.

To stop recording

- To add a 4 second silent interval before stopping
Press ■. The CD will automatically stop too.
- To stop recording without a silent interval
Press •REC/STOP. The CD will stop automatically too.

When you select the wrong CD or track

The same reselection procedure is used with all three modes. Perform this procedure before recording starts.

To reselect a CD

Reselect the CD with DISC 1 ~ DISC 5.

To reselect a track

Reselect the track with ◀◀/◀◀ and ▶▶/▶▶.

For your reference

During 1-ALL mode, if the selected track is not found on a certain CD, the player automatically skips that CD and continues recording from the next CD.

Tape-to-tape recording

The recording level will be recorded as they are on the tape being played back.

- 1 Press TAPE DECK 1/2.**
- 2 Press Δ OPEN on both decks and insert the tapes.**
For playback: Into Deck 1
For recording: Into Deck 2
Close the holders by hand.
Tape direction is automatically set to "►".
- 3 Press REV MODE to select the reverse mode.**
Every time you press the button:

: One side is recorded, then recording stops automatically.
↔ : Both sides (front side → reverse side) are recorded, then recording stops automatically.
- 4 Press TAPE EDIT to start recording.**
• If you selected "↔" in step 3, the direction will automatically change to "↔" when recording starts.

To stop recording

Press \square .

Both decks will stop.

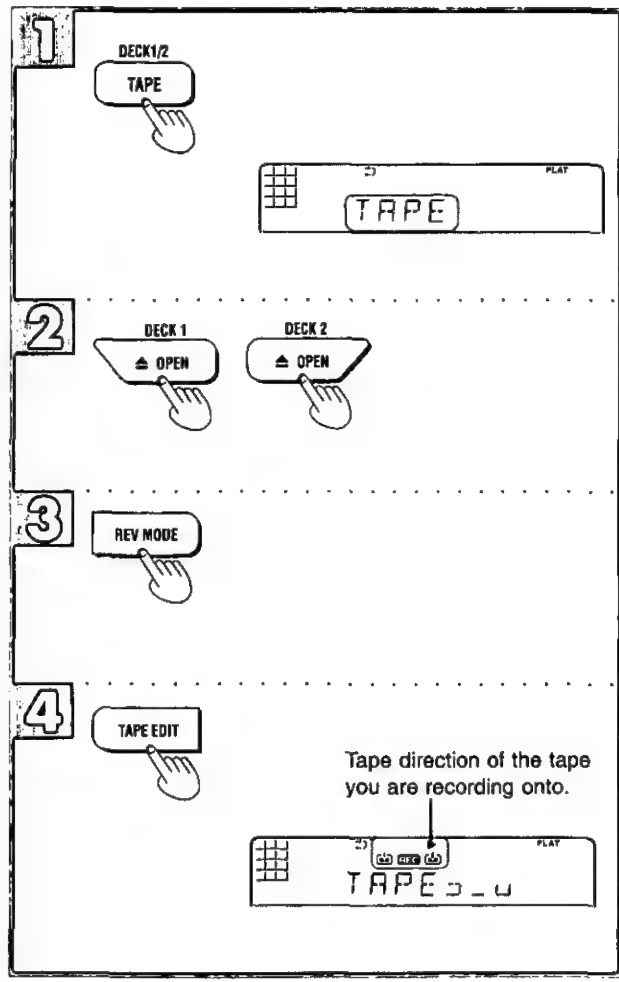
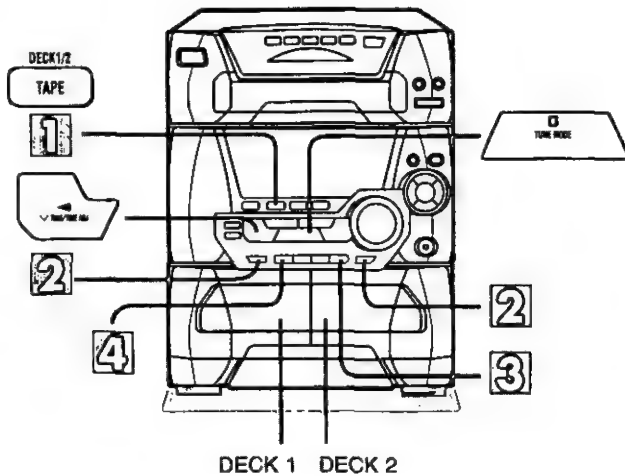
To start recording on the reverse side

Load a tape and change the tape direction as following.

1. Press TAPE DECK 1/2 and select tape Deck 2.
2. Press \triangleleft and immediately thereafter \square . The tape direction will be shown as " \triangleleft ".

To record from a specific point on a tape

Before recording, advance the tape to the point from where you want to start recording.



Tape direction of the tape
you are recording onto.

TAPE ►

Sound quality, field, etc.

Selecting sound quality and field

Base your selection on the type of music and how you want to listen to it.

1 Press EQ MODE to select preset equalizer mode.

Every time you press the button:
FLAT → (preset equalizer) → G.EQ

2 Select sound quality and field with ◀, ▶, ▽ and ▲. Rotation changes with each button as shown below.



HEAVY: Use to add "punch" to rock and other music.

CLEAR: Use to clarify the treble range of jazz, etc.

SOFT: Use to listen to background music, etc.

DISCO: Use to reproduce a long reverberating sound like that heard in discotheques.

LIVE: Use primarily for vocal pieces to add gloss to the vocals.

HALL: Use to impart a deep bass and spread which will make you feel as if you were in a large concert hall.

To cancel the mode

Press EQ MODE to select "FLAT".

Note

In recording, the sound quality/field will be set automatically to "FLAT".

Adjusting sound quality

1 Press EQ MODE to select "G.EQ".

Every time you press the button:
FLAT → (preset equalizer) → G.EQ

2 Press ◀ or ▶ to select the desired sound range. The selected frequency indicator flashes.

3 Press ▽ or ▲ to adjust the frequency level.

4 Repeat steps 2 through 3 until you have adjusted the desired frequency.

To cancel the mode

Press EQ MODE to select "FLAT".

Note

In recording, the sound quality will be set automatically to "FLAT".

Adding bass

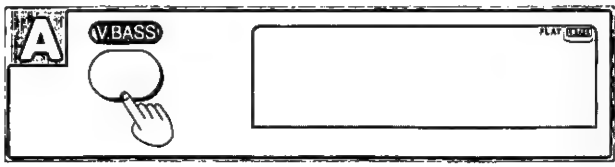
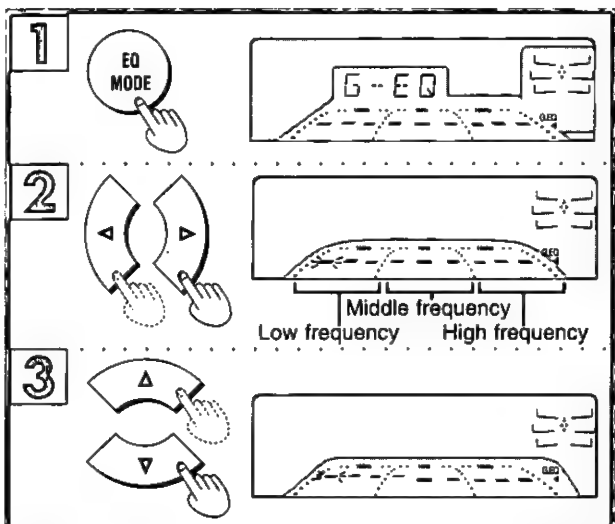
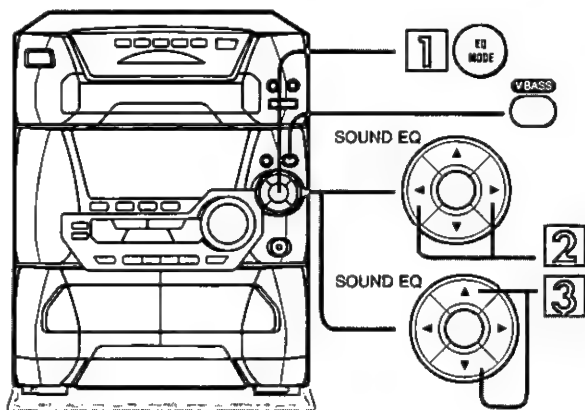
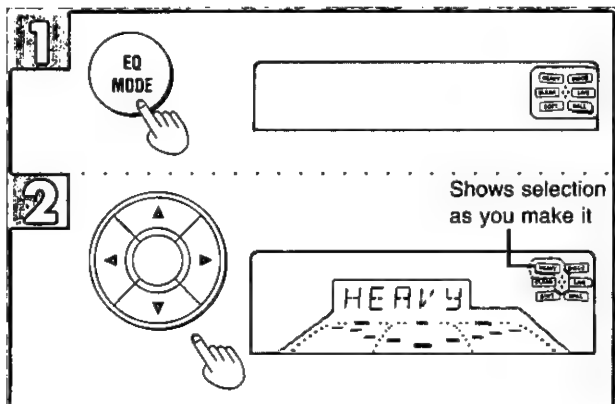
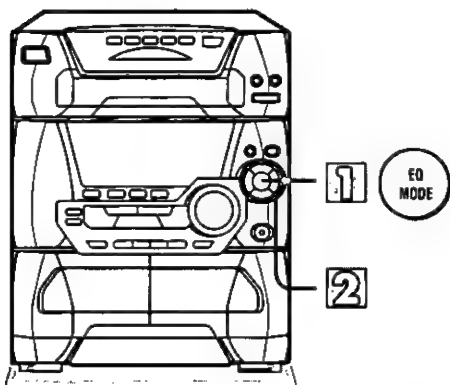
Press **(V.BASS)**.

Press the button again to cancel.

"V.BASS" goes out.

Note

You cannot record V.BASS effect, but you can use it for playback sound.



Timers

This system has 3 timers: Play Timer, Record Timer, Sleep Timer.

Play Timer (ⓈPLAY)

Select this timer when you want to use the timer as an alarm clock. You can wake up listening to music (CD, tuner, tape or aux) at a desired volume level and time.



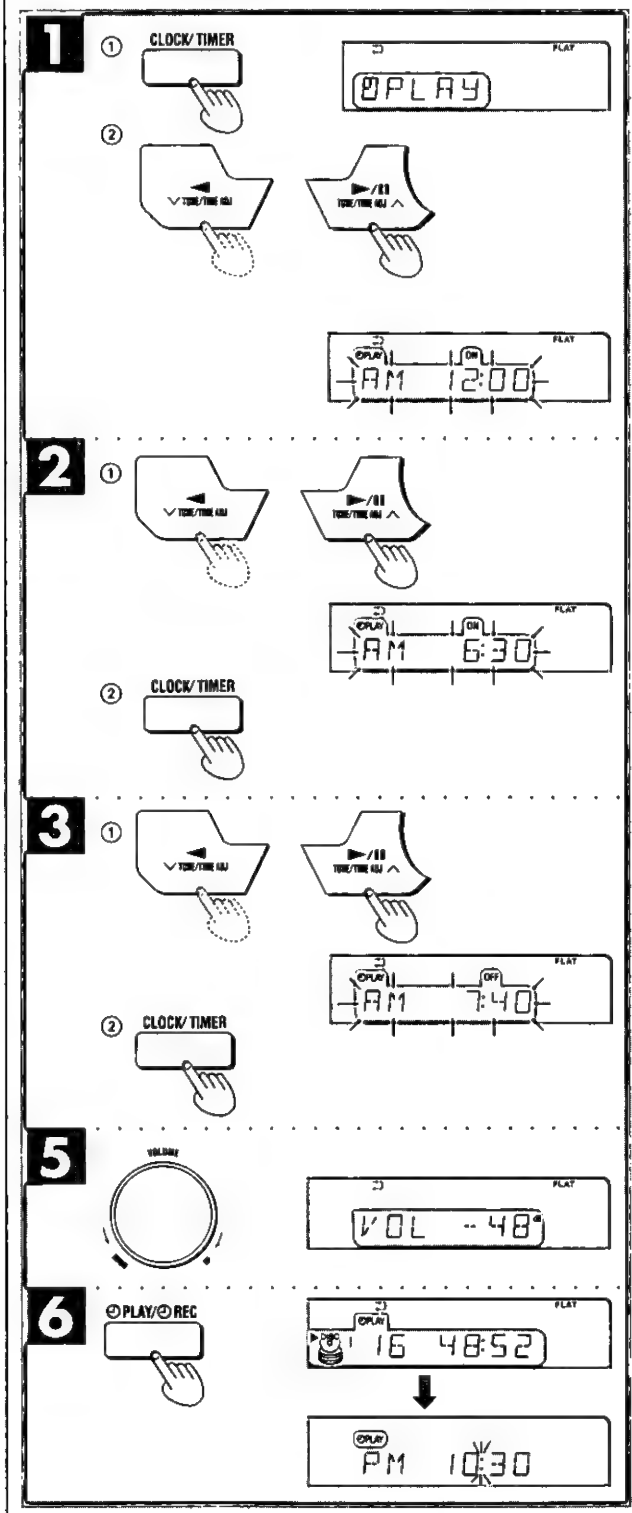
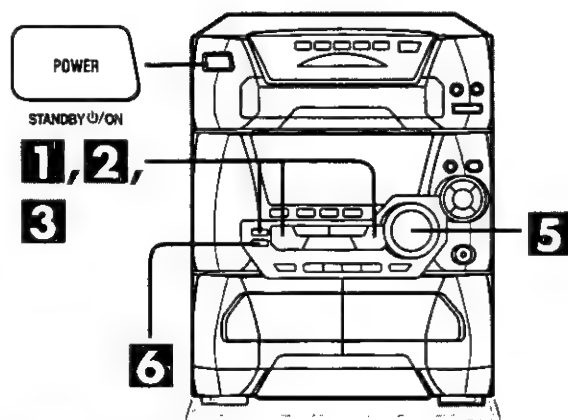
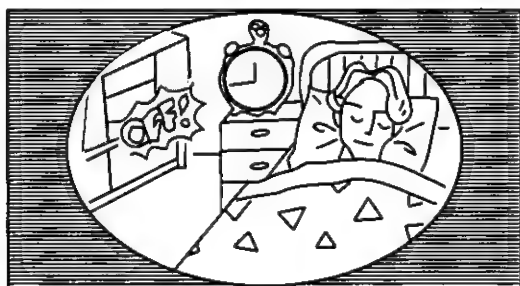
Record Timer (ⓈREC)

Select this timer when you want to use the timer to record a midnight program or while you are out.



Sleep Timer (SLEEP)

This timer turns power to your system OFF at the set time (Max. 2 hours, settable at 30-minute intervals). It lets you fall asleep listening to music.



Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

The figure shows how to set the play timer to play a CD from 6:30 a.m. to 7:40 a.m.

1 Press CLOCK/TIMER to select "⓪PLAY".

Every time you press the button:



- ② (Within 10 seconds or so)
Press ∇ or \wedge to set the start time display flashing.

2 "ON" time setting

- ① Press ∇ or \wedge when the start time display is flashing to set the start time.
- ② Press CLOCK/TIMER.
Finish time flashes.

3 "OFF" time setting

- ① Press ∇ or \wedge to set the finish time.
- ② Press CLOCK/TIMER.
Display returns to original mode.

4 Source selection

Select the desired source and then prepare for playing.

To play CD(s)

Press CD and insert CD(s).

If more than 1 CD is loaded

Press DISC 1 - DISC 5 to select the CD you want to hear first, and press ■.

Note

Disc selection does not become part of the timer memory.

To play tape(s)

Press TAPE DECK 1/2 and insert tape(s).

If tapes are loaded in both decks, playback will start from deck 2.

To play the radio

Press TUNER BAND and tune in the desired station.

To play a unit connected to the "AUX" terminals

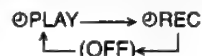
Press AUX.

5 Play volume setting

Set the playback volume.

6 Press ⓪PLAY/⓪REC to select "⓪PLAY".

Every time you press the button:



Power will shut OFF automatically in a few seconds.

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To switch the timer OFF

Press ⓪PLAY/⓪REC and check "⓪PLAY" goes out.

If you set the timer wrongly

Press ⓪PLAY/⓪REC so that "⓪PLAY" goes out. Then, repeat the procedure from step 1.

To check settings

Press CLOCK/TIMER to select "⓪PLAY".

Two seconds later, the display will change in the following order.

- ① Play start time
- ② Play over time
- ③ Play source and playback volume

You can check settings even when the system is OFF.

To enjoy the desired source after the timer setting is completed

The volume level and music source are stored in the timer memory and the timer will start in these preset conditions. However, the Disc number, reverse mode and tape direction do not get stored in the timer memory.

1. After step 6, turn on the power and start playing the desired source.

2. (After playing the desired source)

When you select CD as the timer source

Confirm that the CD(s) is(are) loaded.

- If more than 1 CD is loaded

Reset the Disc number if it has been changed, and press ■.

When you select tape as the timer source

Confirm that the tape(s) is(are) loaded.

Reset the reverse mode and tape direction if you have changed any of them. (If tapes are loaded in both decks, check Deck 2 tape direction.)

Press POWER to put the unit on standby.

Turning the timer ON/OFF

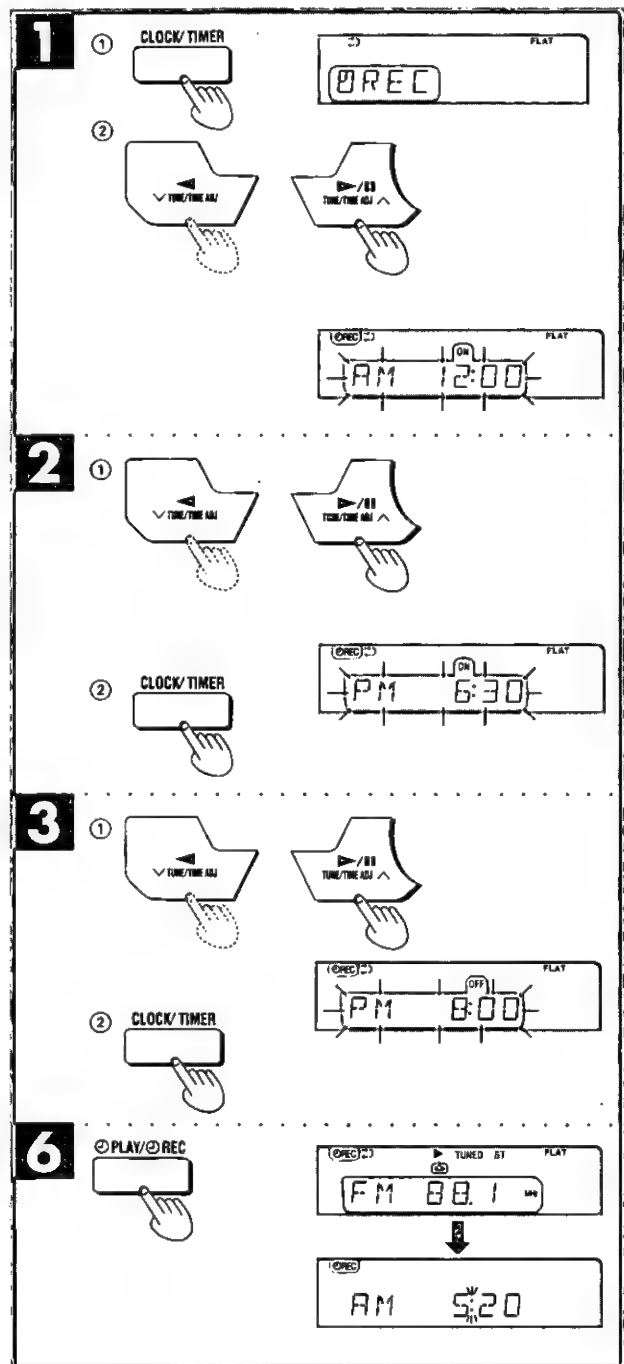
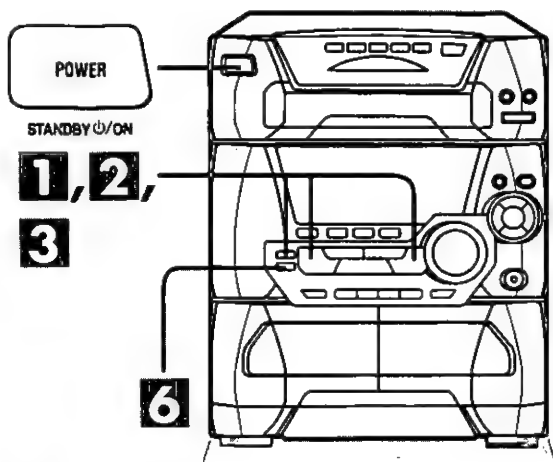
As long as "⓪PLAY" is displayed, the play timer will come ON everyday as set.

You can turn the timer ON/OFF by pressing ⓪PLAY/⓪REC while power is OFF.

Remember that when "⓪PLAY" is displayed, the timer is ON. When not displayed, the timer is OFF.

Note

- If the power is on, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the play timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON and will engage "AUX" as the source. If you want playback from the connected component to start, set the component's timer to the same time. (See the instruction manual that came with the component.)



Using the record timer

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

Set the timer at least 2 minutes before you want to start recording.

The figure shows how to set the record timer for recording FM broadcasts from 6:30 p.m. to 8:00 p.m.

1 Press CLOCK/TIMER to select "⊙REC".

Every time you press the button:



- (Within 10 seconds or so)
Press ∇ or \blacktriangle to set the start time display flashing.

2 "ON" time setting

- Press ∇ or \blacktriangle when the start time display is flashing to set the start time.
- Press CLOCK/TIMER.
Finish time flashes.

3 "OFF" time setting

- Press ∇ or \blacktriangle to set the finish time.
- Press CLOCK/TIMER.
Display returns to original mode.

4 Source selection

Select the desired source and then prepare for recording.

To record from the radio

Press TUNER BAND to select "FM" or "AM" and tune in the desired station.

To record from a unit connected to the "AUX" terminals
Press AUX.

5 Prepare for recording.

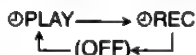
- Insert a tape into Deck 2 with the side on which the recording will start facing you.
- Select the reverse mode.

Note

Reverse mode does not become part of the timer memory.

6 Press ⊙PLAY/⊙REC to select "⊙REC".

Every time you press the button:



Power will shut OFF automatically in a few seconds.

About 30 seconds before the set time, recording will start with all sound muted automatically.

To switch the timer OFF

Press **⏮/PLAY/⏭/REC** and check "⏮/REC" goes out.

If you set the timer wrongly

Press **⏮/PLAY/⏭/REC** so that "⏮/REC" goes out. Then, repeat the procedure from step 1.

To check settings

Press **CLOCK/TIMER** to select "⏮/REC".

Two seconds later, the display will change in the following order.

- ① Recording start time
- ② Recording over time
- ③ Recording source

You can check settings even when the system is OFF.

To enjoy the desired source after the timer setting is completed

The music source is stored in the timer memory and the timer will start in this preset condition. However, the reverse mode and tape direction do not get stored in the timer memory.

1. After step 6, turn on the power and start playing the desired source.
2. (After playing the desired source)
Confirm that a tape is inserted into Deck 2.
Reset the reverse mode and tape direction if you have changed any of them.

Press **POWER** to put the unit on standby.

Turning the timer ON/OFF

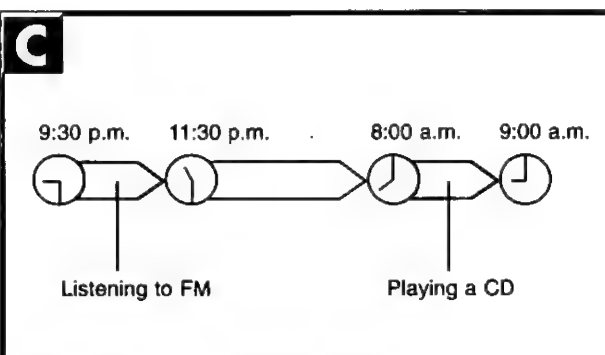
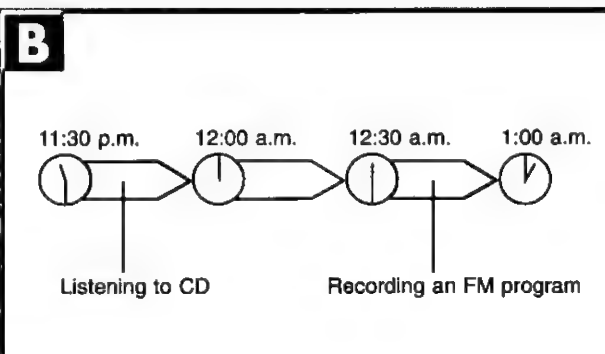
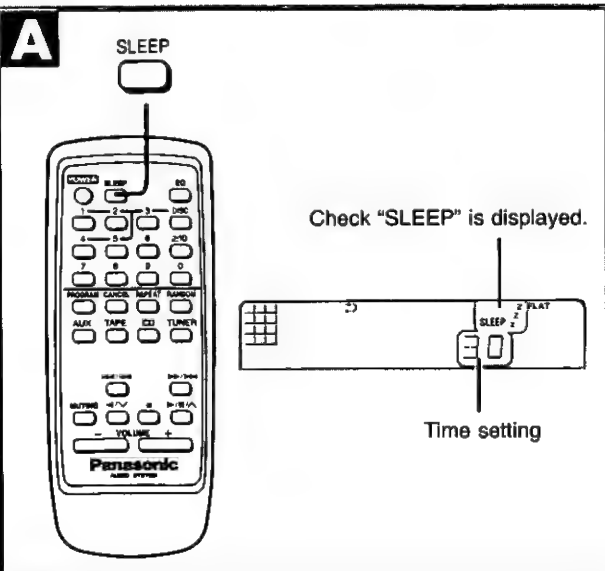
As long as "⏮/REC" is displayed, the record timer will come ON everyday as set.

You can turn the timer ON/OFF by pressing **⏮/PLAY/⏭/REC** while power is OFF.

Remember that when "⏮/REC" is displayed, the timer is ON. When not displayed, the timer is OFF.

Note

- If the power is ON, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the record timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON, will engage "AUX" as the source and will start recording. If you want to record from the connected component, set the component's timer to the same time. (See the instruction manual that came with the component.)



Using the sleep timer

by remote control only

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

The figure shows how to set the system to standby mode after 30 minutes.

While enjoying the desired source:

Press **SLEEP** to select the desired time. **A**

Every time you press the button:

→ 30 → 60 → 90 → 120 → OFF

The system is turned off after the set time has elapsed.

To cancel the sleep timer

Press **SLEEP** to select "OFF".

To confirm the remaining time

(only while power is ON)

Press **SLEEP**.

To change the time remaining during operation

Press **SLEEP** to show the remaining time then press **SLEEP** to select the desired time.

Note

The sleep timer turns OFF automatically the moment you attempt to record a CD using CD Manager function.

To use two timers together

The sleep timer always has priority.
Be sure not to overlap timer settings.

Record timer and sleep timer **B**

To go to sleep listening to a compact disc, and then to make a timer recording from a radio broadcast.

- ① Program the record timer.
Follow steps **1** – **6** on page 28.
- ② Switch on the power.
- ③ Start your CD and set the volume.
- ④ Set the sleep timer (see above).

Be sure to set the sleep timer to go off before the timer recording begins.

Play timer and sleep timer **C**

To go to sleep listening to an FM broadcast, and wake up the next morning listening to a compact disc.

- ① Program a CD for play timer.
Follow steps **1** – **6** on page 27.
- ② Switch on the power.
- ③ Tune in the station and set the volume.
- ④ Set the sleep timer (see above).

For your reference

The play timer cannot be used in combination with the record timer.

Convenient functions

To mute the volume

by remote control only

This feature is convenient when you have a telephone call, etc.

Press MUTING.

Press the button again to cancel.

"MUTING" goes out.

Muting can also be cancelled by lowering the volume all the way (--dB).

When the system is turned off, the muting operation will be automatically cancelled.

Switching displays

Press -DISPLAY/-DEMO.

Every time you press the button, the spectrum analyzer will change as shown on the left.

Using an external unit

Listening to an external source

(See page 7 for external unit connection.)

1. Press AUX.
The power will come on automatically.
2. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Recording from an external source

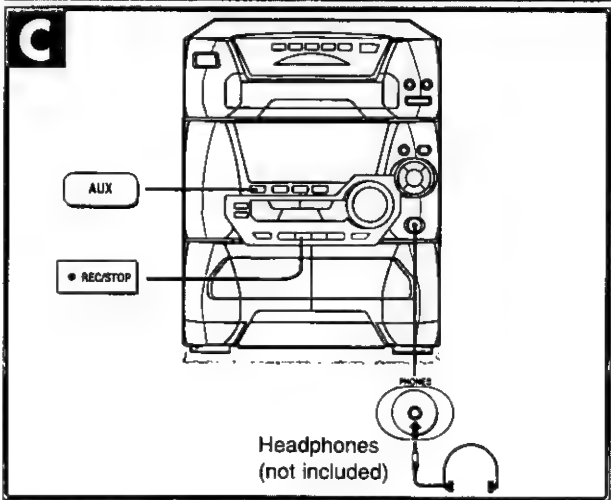
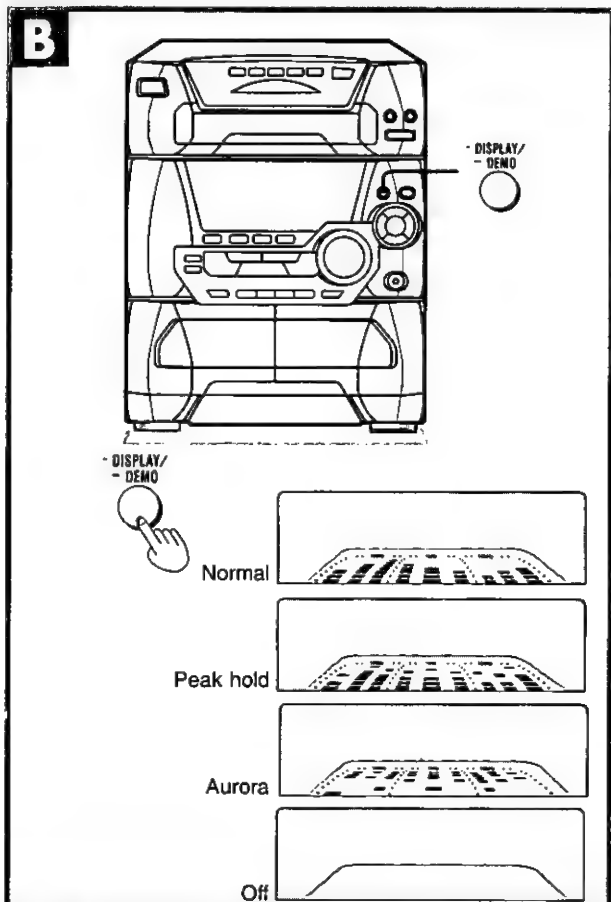
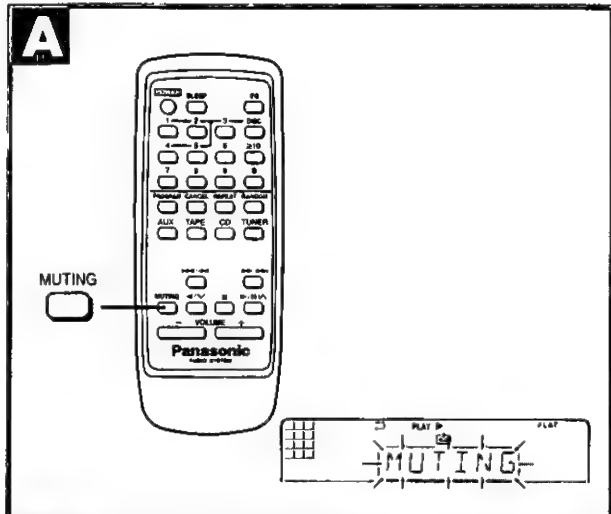
1. Follow steps 1 - 2 on page 20.
2. Press AUX.
3. Press ●REC/STOP (recording starts).
4. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Listening with headphones

Reduce the volume level, and connect the headphones.
Plug type: 3.5 mm (1/8 in) stereo

Note

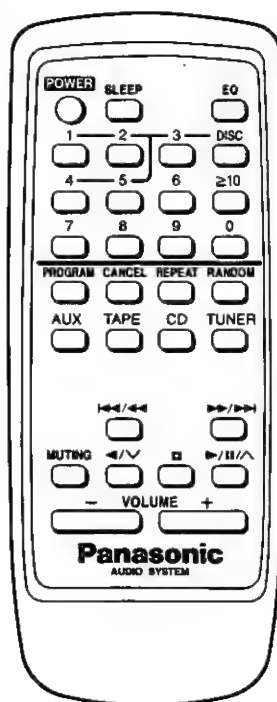
Avoid listening for prolonged periods of time to prevent hearing damage.



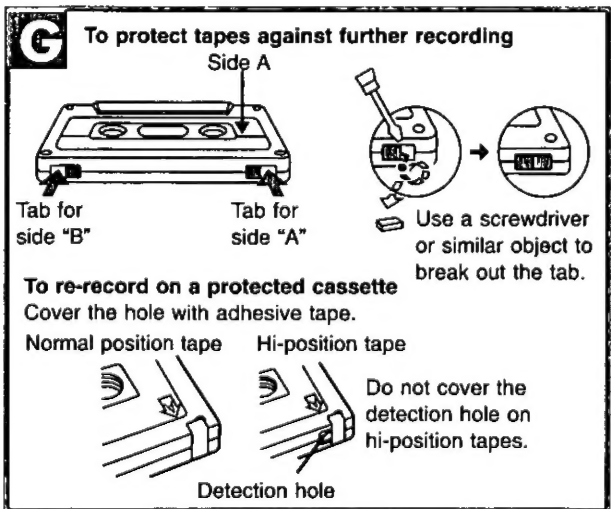
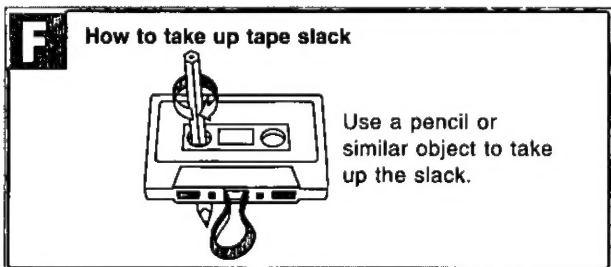
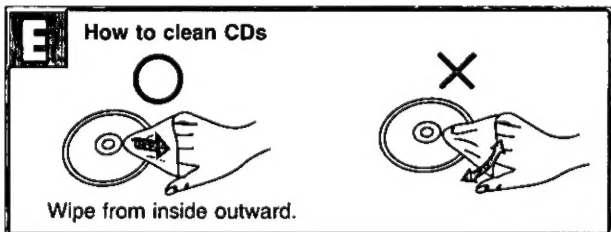
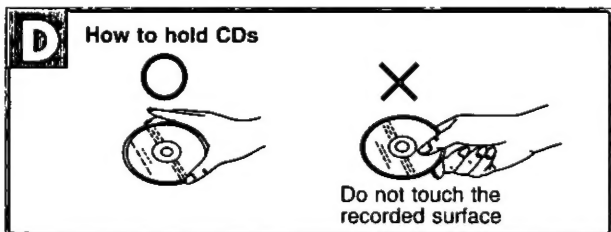
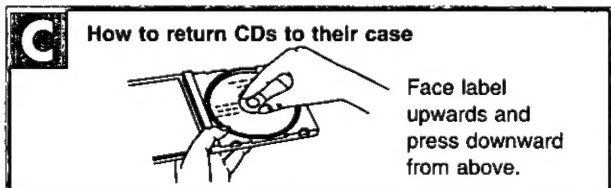
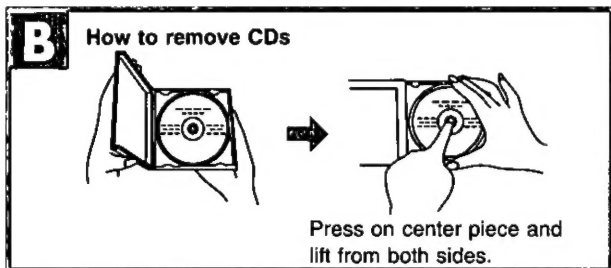
Remote control buttons and functions

Reference pages given as black circled numbers.

Reference



Button	Source	Radio	CD	Tape	Other component
POWER 	Turns the unit ON/OFF.				
SLEEP 	For setting sleep timer 30				—
EQ 	Sound quality/field ON/OFF and selection 25				
	For station selection (In PRESET mode) 11	—	•CD selection (1~5) •Track selection 14, 15, 17	—	—
DISC 	—	—	CD select mode 14, 15, 17	—	—
PROGRAM 	—	—	Engages program input. 15	—	—
CANCEL 	—	—	Cancels program contents. 15	—	—
REPEAT 	—	—	For selecting repeat playback mode 14	—	—
RANDOM 	—	—	Random playback 14	—	—
AUX 	Input source selection 11, 13, 18, 31 •When power OFF One-touch playback begins by pressing TUNER, CD or TAPE. •When power ON Band can be switched with TUNER, and tape deck is switched with TAPE.				
TAPE 					
CD 					
TUNER 					
	—	—	•Searching forward/backward •Skipping forward/backward 13	•Fast-forward/Rewind (While stopped) •Finding the beginning of a tune 19	—
MUTING 	Mutes volume temporarily. 31				
	For station selection (V, ^) (In PRESET mode) 11	—	Playback (▶) 13 Pause () 13	Playback (◀, ▶) 18	—
	—	—	Stop 13, 18	—	—
- VOLUME + 	For setting volume 10, 13, 18				



Concerning compact discs

With this player, you can only play compact discs having this mark.



However, do not use irregular shape CDs (heart-shape, octagonal, etc.). CDs of the sort can damage the unit. **A**

Handling precautions

Handle CDs as shown on the left (**B** ~ **E**).

- If you are taking the disc from a cold to a warm environment, moisture may form on the disc. Wipe this off with a soft, dry, lint-free cloth before using the disc.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)
- Do not use scratch-proof protectors or covers other than those specified for use with this system.

Storage precautions

Be sure to store discs in their cases to protect them from dust, scratches, and warping.

Do not place or store discs in the following places

- Locations exposed to direct sunlight
- Humid or dusty locations
- Locations directly exposed to a heat vent or heating appliance
- In the glove compartment or on the rear deck of an automobile

Concerning cassette tapes

Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

Cassette tapes exceeding 100 minutes

Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

Endless-tapes

For this unit, it is recommended to use the tape which is appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

Tape slack **F**

Tape slack may cause the tape to break.

Erase prevention **G**

Storage precautions

Do not place or store tapes in the following places

- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions. (In U.S.A. consult PASC Authorized Servicenters for detailed instructions or call 1-800-211-7262 for the address of an authorized factory servicenter.)

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
Problems common to all systems			
There is no sound when the power is ON.	Volume is set too low.	Adjust the volume level with the volume control.	11, 13, 18
The location of the various musical instruments is not well defined.	The (+) and (-) connections to one of the speakers are reversed.	Connect the speaker cords correctly.	6
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.	6
When listening to the external unit, the left and right sounds are reversed.	The left and right connections to the external unit are reversed.	Connect the external unit's cord correctly.	7
Only one speaker is emitting sound.	One of the wires of the speaker cord is disconnected.	Connect the speaker cord correctly.	6
There is no sound when a source is being played.	The (+) and (-) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.	6
"ERROR" message appears on the display.	Wrong operation has been done.	Operate the unit correctly by following the operating instructions.	
"-- : --" appears on the display.	<ul style="list-style-type: none"> You plugged the power cord in for the first time. There was a power failure recently. 	Set the time.	9

While listening to FM broadcasts			
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	If you are using an indoor antenna, change to an outdoor antenna.	7
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.		
The stereo indicator ("ST") flickers and does not light completely.	The transmitting station is a long distance away. The power of the TV set or VCR is ON.		
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).]	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.	7

While listening to AM broadcasts			
You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.	
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.	

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
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When there is a television set nearby

The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.	7
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.	

When listening to tapes

Sound is low, intermittent, poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.	35
The deck does not enter the recording mode.	The erase-prevention tabs have been removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.	33

While listening to compact discs

The display does not show the correct indication. Disc play does not start when you press the play button.	The disc is upside down.	Set the disc with the label facing upward.	12
	The disc is dirty.	Wipe the disc with a soft cloth.	33
	The disc is scratched.	Replace the disc with a new one.	
	The disc is badly warped.		
	The disc is a nonstandard one.	Replace the disc with a different one.	33
	There is condensation inside the CD changer.	Wait for 60 minutes before using the CD player.	
A certain music passage can't be played correctly.	The disc is dirty.	Wipe the disc with a soft cloth.	33

While using the remote control

The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Re-insert the batteries observing the correct polarity.	5
	The batteries are run-down.	Replace the batteries with new batteries.	5

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

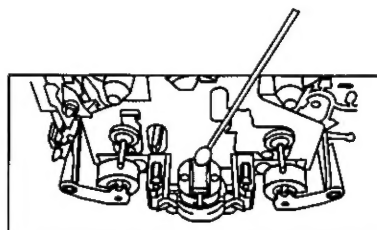
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner, benzine, or chemically treated cloths to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

We recommend that you periodically clean parts (the shaded portion in the figure below) the tape contacts like the heads.

Do not use any solution other than alcohol for head cleaning.



Technical specifications (IHF'78)

AMPLIFIER SECTION

Rated minimum sine wave RMS power output	
80 Hz – 20 kHz both channels driven	
1% total harmonic distortion	25 W per channel (6 Ω)
1 kHz continuous power output, both channels driven	
1.5% total harmonic distortion	30 W per channel (6 Ω)
Total harmonic distortion half power at 1 kHz	0.1 % (6 Ω)
Input sensitivity	
AUX	250 mV
Input impedance	
AUX	14 k Ω

FM TUNER SECTION

Frequency range	
	87.9 – 107.9 MHz (200 kHz steps)
	87.5 – 108.0 MHz (100 kHz steps)
Sensitivity	23.3 dBf (4 μ V, IHF '58)
Antenna terminal(s)	75 Ω (unbalanced)

AM TUNER SECTION

Frequency range	520 – 1710 kHz
Sensitivity (For 500 mW)	280 μ V/m

CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erase	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s (1 $\frac{1}{2}$ ips)
Frequency response(-3, +1 dB) at DECK OUT	
NORMAL	35 Hz – 14 kHz
HIGH POSITION	35 Hz – 14 kHz
S/N	50 dB (A weighted)
Wow and flutter	0.14 % (WRMS)
Fast forward and rewind times	Approx. 120 seconds with C-60 cassette tape

CD SECTION

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source/wave length	Semiconductor laser/780 nm
Number of channels	2 channels, Stereo
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

SPEAKER SECTION

Type	2 way speaker system
Speaker(s)	
Woofer	12 cm cone type
Tweeter	6 cm cone type
Impedance	6 Ω
Input power	100 W (MUSIC) 50 W (DIN)
Output sound pressure level	85 dB/W (1.0 m)
Cross over frequency	8kHz
Frequency range	45 Hz – 22 kHz (-16 dB) 60 Hz – 20 kHz (-10 dB)
Dimensions (W×H×D)	210 × 330 × 229 mm (8 $\frac{1}{2}$ " × 13" × 9 $\frac{1}{32}$ ")
Weight	3 kg (6.6 lb.)

GENERAL

Power consumption	95 W
Power supply	AC 120 V, 60 Hz
Dimensions (W×H×D)	270 × 330 × 290 mm (10 $\frac{5}{8}$ " × 13" × 11 $\frac{13}{32}$ ")
Weight	7.0 kg (15.4 lb.)

Notes:

- Specifications are subject to change without notice.
Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

MASH is a trademark of NTT.

Product service

Do not attempt to remove the cover(s) or repair the unit yourself.
Refer servicing to qualified personnel only.

Product information

For product service, product information or assistance with product operation, refer to the servicenter directory.

Before moving or shipping this unit

Prepare the system as described below to prevent damage to the mechanism.

- Remove all CDs.
- Press CD.
- Press ■ for 5 seconds or more.
The display will change from "WAIT" to "LOCKED" to "GOODBYE" and finally "ZZZ". Then, the unit will be turned OFF automatically. (This will set the so-called "shipping mode".)
- Unplug the stereo.

The shipping mode will turn OFF automatically when you turn the power ON the next time.

En

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